

Rock Products

DEVOTED TO
Concrete and Manufactured
Building Materials

Volume IX.

CHICAGO, ILL., MAY 22, 1910.

Number 11.

CAROLINA PORTLAND CEMENT COMPANY

We are the largest distributors of Portland Cement, Lime Plaster, Fire-brick and General Building Material in the Southern States, and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere. Also Southern agents for the "Dehydratine's" waterproofing material. "Universal," "Acme" and "Electroid" Brands Ready Roofing. Get our prices.

Charleston, S. C. Birmingham, Ala. Atlanta, Ga. New Orleans, La.

DEXTER Portland Cement
THE NEW STANDARD

Sole Agents **SAMUEL R. FRENCH & CO.** Philadelphia



SPECIAL FEATURES IN THIS NUMBER

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UNION MINING COMPANY

Manufacturers of the Celebrated

MOUNT SAVAGE
FIRE BRICK
GOVERNMENT STANDARD

DEVOTE a special department to the manufacture of Brick particularly adapted both physically and chemically to

Lime Kiln and Cement Kiln Construction

Large stock carried. Prompt shipments made. Write for quotations on Standard and Special shapes, to

UNION MINING CO.,
Mount Savage, Md.

CAPACITY, 60,000 PER DAY.
ESTABLISHED 1841.



Phoenix Portland Cement UNEXCELLED FOR ALL USES.

Manufactured by

PHOENIX PORTLAND CEMENT CO.

NAZARETH, PA.

Sole Selling Agent, **WILLIAM G. HARTMAN & CO.**
Real Estate Trust Building, PHILADELPHIA, PENNSYLVANIA.

Ottawa Silica Co.'s Washed White Flint Sand

Is used for sawing stone in more than a dozen states. Cuts more and lasts longer than any other sand on the market. Unexcelled for Roofing, Facing Cement Blocks, White Plaster, etc. Freight rates and prices on application.

OTTAWA SILICA CO., Ottawa, Ill.



**FOR GRIFFIN
TUBE AND
BALL MILLS**

Branches:

CHICAGO BELTING CO.

PURE OAK TANNED LEATHER BELTING

Send for Our Illustrated Catalog

111 North Green St., CHICAGO

NEW YORK

PHILADELPHIA

NEW ORLEANS

PORTLAND, OREGON



**FOR
DAMP
PLACES**

ALMA Portland Cement

**STANDARD BRAND
OF
MIDDLE WEST.**

Specially adapted to all Reinforced Concrete and High-Class Work.

ALMA CEMENT CO.
WELLSTON, OHIO.

HARBISON-WALKER

The Standard of Quality

You **know** what the linings for your cement and lime kilns cost per thousand brick but **do** you know how much per **ton** output?

That is the cost that is vital, that's why we are anxious you should know. Write us.

HARBISON - WALKER REFRACTORIES CO.
PITTSBURGH, PENNA.

**HIGHEST GRADE
PORTLAND CEMENT
MANUFACTURED**



CAPACITY
1,000,000 BARRELS
YEARLY



A PERFECT RECORD FOR TEN YEARS

IN ALL KINDS OF CONCRETE WORK

Send for 72 page Illustrated Catalog No. 25.

MARQUETTE CEMENT MANUFACTURING CO.

Chicago Office
Marquette Building.

General Office and Works, LaSalle, Ill.





TRADE-MARK

Peninsular Portland Cement

Acknowledged by competent Architects and Engineers to be unequalled for fineness, wonderful development of strength and sand carrying capacity.

"THE BEST IS THE CHEAPEST"

Address
Peninsular Portland Cement Co.
Jackson, Michigan

GRAVEL WASHING PLANTS



Stone Crushing Cement and Power Plants

J. C. Buckbee Company, Engineers, CHICAGO

"LEHIGH" PORTLAND CEMENT



High Tensile Strength, Finely Ground
Light and Uniform in Color.
Manufactured by the

Lehigh Portland
Cement Co.
ALLENTOWN, PA.

Western Office:
725 Rockefeller Bldg.,
CLEVELAND, OHIO

Write for Catalogue

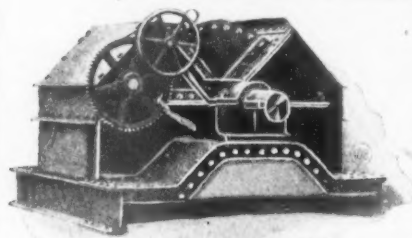
Capacity, 8,000,000 Yearly.

Washed White Silica Sand

Unexcelled For
Concrete and Plaster Finishes
Ornamental Concrete Stone—Exterior Plastering
Roofing—Sawing Stone and Marble, Etc.
Freight Rates and Prices on Application.

E. J. REYNOLDS and COMPANY
UTICA, ILL.

"PENNSYLVANIA" STEEL HAMMER CRUSHERS



90%
STEEL

PENNSYLVANIA CRUSHER CO.
Philadelphia
New York Pittsburgh



"CHICAGO AA"

1,250,000 Barrels Annually

HIGHEST QUALITY
"THE BEST THAT CAN BE MADE"

"Chicago AA" Portland Cement is best adapted for use in making concrete because of its absolute uniformity, fineness, prompt hardening and attractive color. "Chicago AA" is second to none, and every barrel is fully guaranteed to meet the requirements of the Standard Specifications.

CHICAGO PORTLAND CEMENT CO.
108 La Salle St. Booklets on Request. Chicago, Ill.

"TE-PE-CO"

EVERLASTING
WATERPROOFING

IF you are interested in concrete construction you cannot afford to call the job finished until you have made it PERMANENTLY WATER-PROOF.

Write us for "Te-Pe-Co" PROOFS.

We have shown engineers, architects, contractors and builders that "Te-Pe-Co" WILL AND DOES make cement, brick and porous stone structures waterproof.

Let us tell you why—and why every job is permanent.

WRITE FOR
NEW BOOKLET
NUMBER 26

The National Water-Proof Co.
614 Harvester Building
Chicago

Tell 'em you saw it in ROCK PRODUCTS



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Rock Products

DEVOTED TO
Concrete and Manufactured
Building Materials

Volume IX

CHICAGO, ILL., MAY 22, 1910

Number 11

Concrete Foundations for Lumber Piles.

Michigan Lumberman Makes Foundations of Concrete and Reports that They Are More Stable and Economical—Yard Presents a Neater Appearance and is Regarded as a Better Fire Risk.

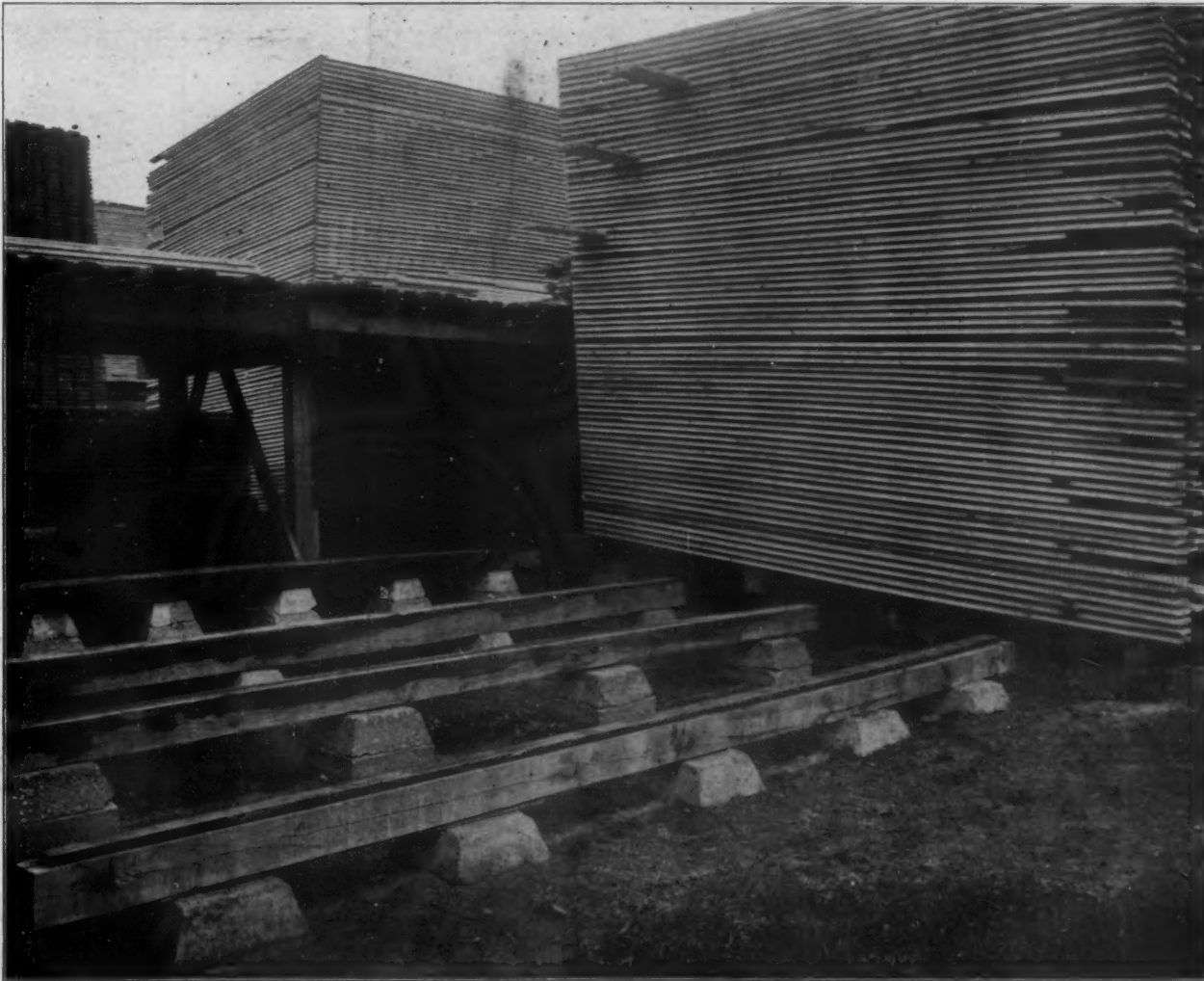
Retailers of builders' supplies are in many instances either interested in the retail lumber business or are closely allied with it. The problem of storing or piling lumber is a serious one to the lumber industry, and many retail yards use the rack system for piling lumber. Where it is piled

on the ground, posts are used on which rest the timbers which carry the pile. These are bound to rot on account of the moisture in the ground and require replacing at frequent intervals. A progressive lumberman has solved the problem after many experiments, and has at last satisfactorily

constructed a foundation which is not only permanent but economical as well.

His experiments were with concrete, and anyone who piles lumber can successfully apply the principle in his own yard.

(Continued on Page 46.)



CONCRETE PILE FOUNDATIONS EMPLOYED IN THE BIG HARDWOOD YARDS OF COBBS & MITCHELL, INC., CADILLAC, MICH.

Power & Mining Machinery Co.

MILWAUKEE, WIS. U. S. A.

District Offices:

Chicago

New York City

Atlanta

El Paso

San Francisco

"Half the size,
Half the weight;
Half the height,
Half the freight."

TO WHICH MIGHT ALSO BE ADDED:

"Half the efficiency,
Half the life;
Half the success,
Double the strife."

All the above at the same price of a real crusher, too, such as the

"McCULLY CRUSHER"



McCULLY CRUSHERS ARE NOT SOLD BY RHYME BUT BY REASON

By reason of their unequalled capacity and wearing qualities on rock and ore of any degree of hardness, and WITHOUT MELTING ANY BABBITT.

By reason of not requiring pumps for circulating the oil.

By reason of not requiring any cooling system for cooling the oil.

By reason of their unequalled efficiency under any and all conditions of service.

By reason of their unequalled economy due to minimum power, oil and repairs required.

By reason of many other "reasons",—too numerous to mention here, but which are contained in our new Catalog No. 4-R which is just off the press.

DO YOU WANT IT? THEN SEND FOR IT. IT'S FREE!

Principal Products

ROCK CRUSHING MACHINERY

MINING AND SMELTING MACHINERY

CEMENT-MAKING MACHINERY

WOOD IMPREGNATING PLANTS

POWER TRANSMITTING MACHINERY

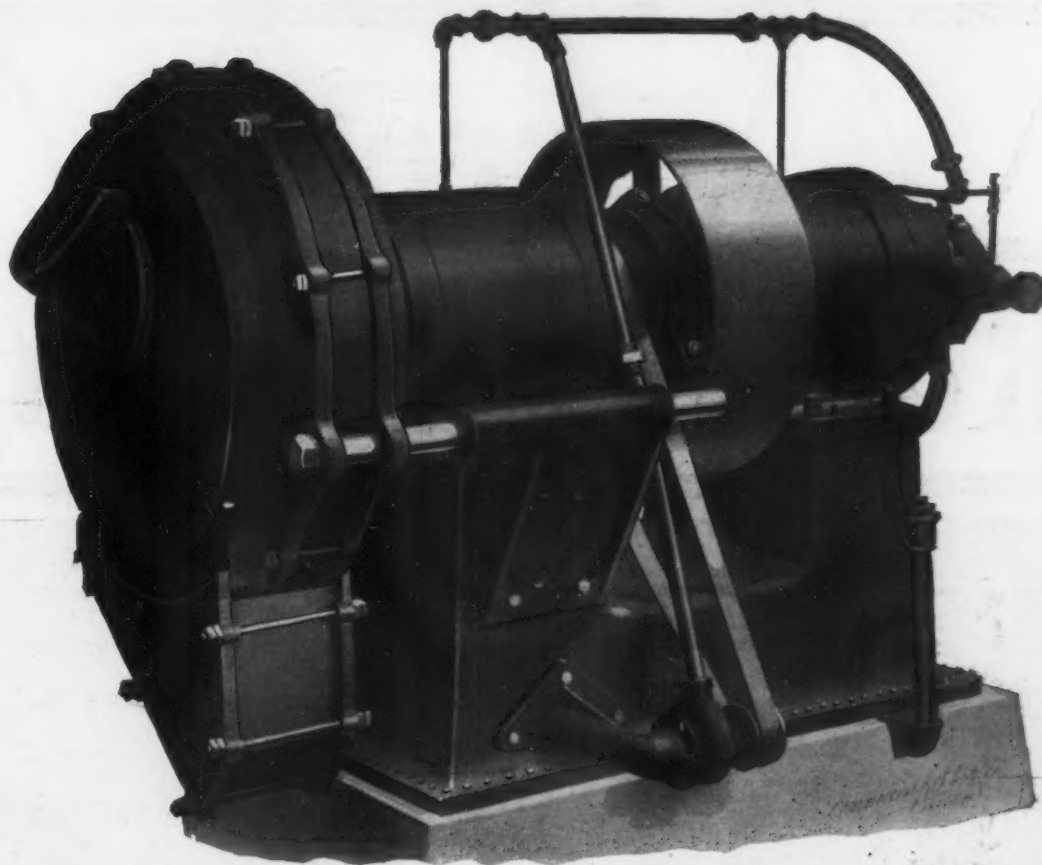
LOOMIS-PETTIBONE GAS GENERATORS

SUCTION GAS PRODUCERS

Write for Catalogs on any of Above, Mentioning this Journal.

The Symons Disc Crusher

Takes the Rejections from Any Gyratory Breaker
or Crushes Rapidly Gravel Pit Boulders



Makes Any Size of Product You Want Down to $\frac{1}{4}$ Inch

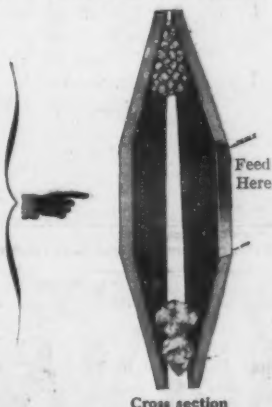
Quickly Adjusted for Different Sizes.

Does the Work at One Operation.

LOOK AT THE NEW PRINCIPLE!

How It Works

This crusher has two discs.
They are manganese steel.
Both of them are dish shaped.
Hollow sides face each other.
Form an angle with each other—
Neither disc moves sidewise.
Both rotate in the same direction.
They travel at the same speed.
One has a central feed opening.
Stone is fed between the discs.



This Happens!

Stone is caught between the discs—
caught where they are widest apart.
It is carried around with the discs—
carried to where they are closest together.
During its ride it is crushed—
crushed in going half way around.
The smaller particles fly out—
flung out during the next half round.
The larger pieces are caught again.
Occurs 400 to 600 times a minute.

What Happens?

It Happens in a Hurry !!

DO YOU SEE Why this crusher CANNOT CHOKE?
Why its CAPACITY IS IMMENSE?

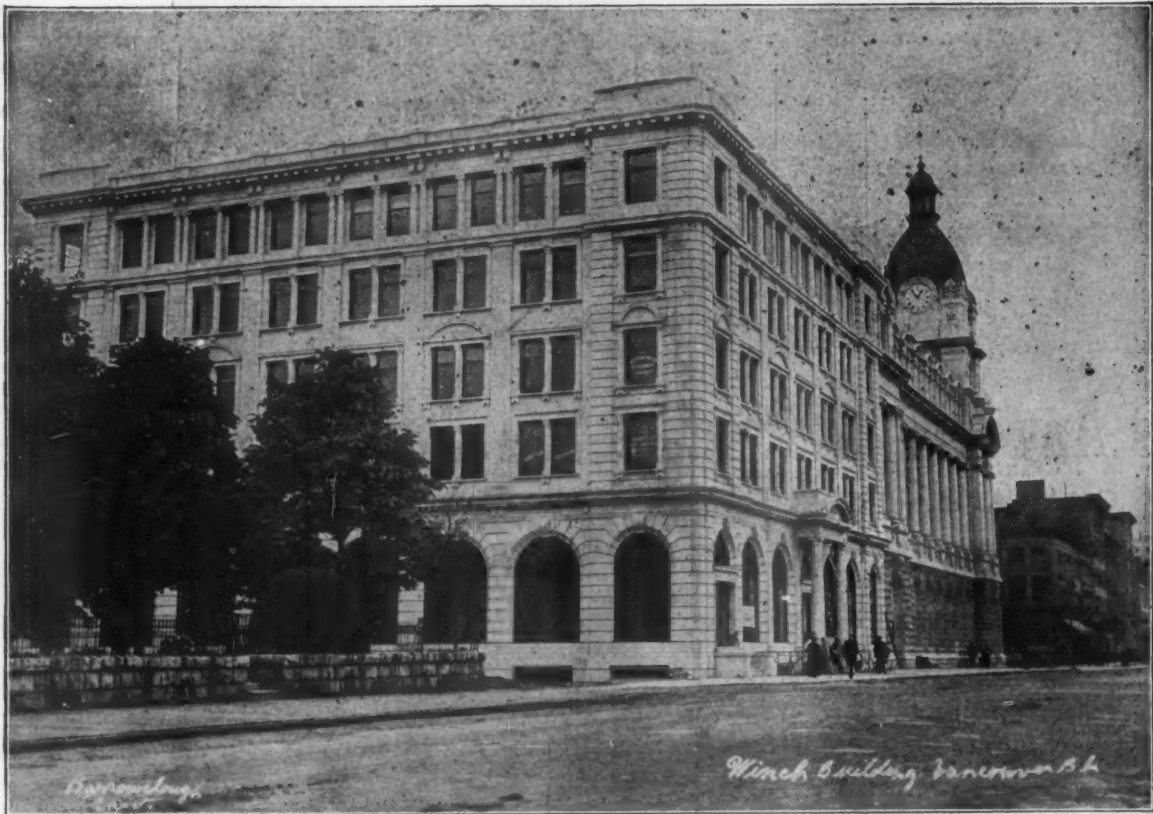
WRITE
TODAY

SYMONS BROTHERS

305 Old Colony Bldg.
CHICAGO

Tell 'em you saw it in ROCK PRODUCTS

Triangle Mesh Concrete Reinforcement



Winch Building, Vancouver, B. C.

* Triangle Mesh reinforcement used.

Made by
American Steel & Wire Co.
CHICAGO, NEW YORK, DENVER, SAN FRANCISCO.

WRITE FOR ILLUSTRATED PAMPHLET

United States Steel Products Export Co., New York, N. Y., Export Representative.

Hydrated Lime

Bulletin No. 34

When small per cents of hydrated lime are added to concrete it is an advantage in a number of ways:

- (1) The concrete works easier under the trowel.
It finishes easier.
- (2) It prevents drying out as quickly as it otherwise does.
- (3) It improves the color of the finished work.
- (4) It makes the concrete more impervious to water.
- (5) It improves the strength.

(1) Hydrated Lime is very fine. Its fineness exceeds that of the finest Cement by 9-10 per cent, that is, 94 per cent will pass 200 mesh, while the finest Cement placed on the market has a fineness through 200 mesh of 85 per cent. Hydrated Lime is 19-20 per cent finer than standard ground Cement, which have 75-76 per cent through 200 mesh sieve.

When small per cents, say 10 per cent, is added and well mixed the finely divided, flaky nature of the Hydrate reaches every part of the mass. On account of its lightness it follows the tendency of the moisture to work to the surface. In so doing the granular particles becomes coated with thin film of Hydrate and the mass offers less resistance to the workman's tools. Mixing is therefore easier. When the finish coat is put on the same is true and by the time this is well worked in place there is sufficient Hydrate present at surface to make floating and troweling easier. The finisher can do this important work much faster and easier.

(2) There is a tendency of concrete to dry out. This is true while it is being mixed and while it is in early stage of hardening. Drying out varies, but even in cold weather when a gentle breeze is stirring it goes on to some extent. In hot weather or windy weather it is greatest. To prevent this, work is protected or more water is used. It is also sprinkled after it begins to harden. Hydrated Lime, when added, prevents drying out. It has a tendency to hold the moisture in the mass.

(3) Hydrated Lime makes the color lighter. When work is well done and well finished the color should be a light gray. Through ingenious workmanship some very pleasing finishes are produced. Take any case, work is lightened in color several shades by addition of 10 per cent. It approaches white, the color desired in all finish work. Hydrated Lime overcomes any other color in the sand. In some localities sand is dark, sometimes a reddish color.

(4) The base of most water proof compounds is Hydrated Lime. The solubility of Hydrated Lime is 50-65 per cent greater than Cement. This heavily saturated solution in concrete crystallizes in the voids of concrete. It fills the spaces there as much as possible and makes the mass more dense. Cement has a tendency to do the same, but not sufficient in general work, to make the mass impervious to water.

(5) The all important result in concrete work is strength. When strength is increased by an improvement it is a success. Hydrated Lime when added in amounts of 5 to 10 per cent does improve strength.

Our business is the designing and constructing of Hydrating plants. To make this up-to-date material, we have the only process that has proved successful in hydrating a High Calcium and Dolomite limes.

It requires about four months to build a plant, why not take this matter up with us now and get ready for next season's business.

The Kritzer Company

115 Adams Street, - CHICAGO, ILLINOIS

Tell 'em you saw it in ROCK PRODUCTS

THE QUALITY THAT NEVER FAILS

Trinity Portland Cement

Your Cement needs can be supplied efficiently.
Daily capacity, 4000 barrels. Write to-day.

Southwestern States Portland Cement Company

GENERAL SALES OFFICE: 611 WILSON BUILDING

DALLAS, TEXAS

Prominent Architects, Engineers and Contractors
SPECIFY AND USE

Edison Portland Cement

Because of its National Recognition by Federal and Municipal Authorities and for "EDISON'S 5 STRONG POINTS:
Fineness—Color—Strength—Uniformity and Sand Carrying Capacity.

THE EDISON PORTLAND CEMENT CO.

New York, St. James Bldg.
Philadelphia, Arcade Bldg.
Pittsburg, Machesney Bldg.

Boston, P. O. Square Bldg.
Newark, Union Bldg.
Savannah, Nat'l Bank Bldg.



ONE GRADE—ONE BRAND

Alpha Portland Cement

Best in the World for
Sidewalks

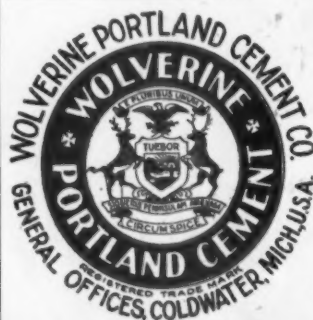
Write for our Handsomely Illustrated Book. Sent Free.

General Offices: No. 7 Centre Square, EASTON, PA.

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The Oliver Bldg., PITTSBURGH.
Builders Exchange, BALTIMORE.
Marquette Building, CHICAGO.
Harrison Building, PHILADELPHIA.

Builders Exchange, BUFFALO
Board of Trade Bldg., BOSTON.
Hudson Terminal Bldg., N. Y.
Nat'l Bank Bldg., SAVANNAH, GA.



"WOLVERINE"

The Alright Cement

MADE RIGHT SOLD RIGHT
WORKS RIGHT
WEARS RIGHT

The Best Is None Too Good For You.
Insist Upon

"WOLVERINE"

Write for Booklet and Quotations.
Factories at Coldwater and Quincy, Mich.
Capacity 3500 Daily.

WOLVERINE PORTLAND CEMENT COMPANY

W. E. COBEAN, Sales Agent,
Coldwater, Michigan

Main Office, Coldwater, Mich.



"THE BEST IS NONE TOO GOOD"

HIGHEST GRADE of Portland Cement

Every Barrel Absolutely Uniform.

R. R. facilities especially adapted
for prompt shipments in
the northwest.

Capacity 1,500,000 bbls. Yearly.

NORTHWESTERN STATES PORTLAND CEMENT COMPANY
MASON CITY, IOWA

BAY STATE

BRICK AND CEMENT COATING as a Protection and Tint for Concrete

This Coating is made of a cement base, held in suspension by a volatile oil which evaporates on application. It contains no lead, is not affected by fumes of acids or gases and can be applied to a damp surface. It becomes a part of the material itself and will not rub, crack, peel, chip off or mildew. It does not destroy the desirable distinctive texture of concrete.



It can be had in many beautiful shades ranging from pure white to dark green. It may be used as a finish coating for the ornamentation and protection of concrete, cement, stucco, brick or plaster on subways, cellars, mills, hotels, office buildings or small or large homes.

It has been endorsed by the National Board of Fire Under-

writers as a fire retarder and will lessen the insurance rate. As a floor coating it prevents the powdering of cement floors, making a sanitary application for public buildings, hospitals, schools, libraries, etc. It can be readily washed. It will not chip or scale off when applied overhead and thus prevents damage to delicate machinery. Ask your dealer or address for sample card and particulars, mentioning this paper.

WADSWORTH, HOWLAND & CO., Inc.
Paint and Varnish Makers and Lead Corroders
82-84 Washington Street, Boston, Mass.

Tell 'em you saw it in ROCK PRODUCTS



Pythian Home—Decatur, Ill.
DEAL & GINZELL—Architects, Lincoln, Ill.

2000 gallons Dehydratine used on partitions, ceilings and inner face of outside walls.

DEHYDRATINE

THE PERFECT Waterproofing Compound

Makes all walls damp-proof and isolates plaster from exterior masonry.

Takes the place of furring and lathing or can be used in conjunction therewith.

Makes Limestone, Marble and Granite stainproof and damp-proof, thus dispensing with the use of non-staining cements.

Thoroughly water-proofs underground masonry, vault arches, brick walls, etc.

Write for full particulars, circulars, prices, etc., to

George W. DeSmet

ALSO SOLE DISTRIBUTOR FOR

VULCANITE PORTLAND CEMENT

Room 419—140 Washington St.

CHICAGO, ILLINOIS



WATERPROOF CONCRETE



Ceresit means 16 years' experience in waterproofing research. Ceresit Paste is added to the water used in mixing mortar or concrete. With the water the Ceresit Paste penetrates to all parts of the concrete or mortar.

Ceresit is now being used for the Harper Memorial Library (Chicago University) which is more than an ordinary waterproofing job. There is a reason why Ceresit is so widely known all over the world. Insist upon Ceresit being specified for your next building.

ASK FOR OUR FREE BOOKLET, SPECIFICATION, ETC.

CERESIT WATERPROOFING COMPANY

1307 Flat Iron Building
NEW YORK, N. Y.

GENERAL OFFICES:
Commercial National Bank Building
CHICAGO, ILL.

1218 Chestnut Street
PHILADELPHIA, PA.

Aquabar

will waterproof Concrete, Brick
or Rubble Walls, Tanks, Floors,
Cisterns and Tunnels.

IT IS

Impervious to acids, oils or alkalies
Guaranteed by Bond
Used by United States Government

For further information
call or write

Wisconsin Lime & Cement Co.

607 Chamber of Commerce
Building, Chicago, Ill.

Tell 'em you saw it in ROCK PRODUCTS

The Bradley Producer

Gas Process for Burning Lime.

Four and three quarter pounds of lime to one pound of coal on a large output is now being secured every day.

Does that look like economy to you?

=====RESULTS GUARANTEED=====

Duff Patents Company **Frick Building**
Pittsburg, Pa.

"IF IT IS

LIME

WE MAKE IT"

Lump - Barreled - Hydrated - Ground
STRONGEST IN OHIO.

We are not connected with any Trust or Combination.

WRITE US
PHONE US

The Scioto Lime and Stone Company, Delaware, Ohio

In Roman days **THREE YEARS** was none too long for

LIME



Dolomite for Furnace Uses

to slake and cure. The Secret of the wonderful strength and durability of ye old time mortars was in the long time perfect slaking and curing. None other than a wet process will accomplish this production of a perfect lime putty.

"Basic Wet Process"

Hydrated Lime is the "BEST yet produced." Our prices are right.

Basic Products Co.
KENOVA, W. VA.

Farnam "Cheshire" Lime Co.

OF CHESHIRE, MASS.
MANUFACTURERS OF THE

Celebrated Cheshire "Finishing" Lime

Well known throughout New York and the Eastern States as the finest finishing lime manufactured. The special feature of this lime is its quick and even slaking, thus preventing any cracking or checking when put on the wall. It is the best lime used in the country today for all

HIGH GRADE FINISHING WORK

Selling Department, 39 Cortlandt St., N. Y., C. J. CURTIN, Pres't.

Tell 'em you saw it in ROCK PRODUCTS

The Ohio and Western Lime Company

WORKS AT

Huntington, Indiana
Marion, O.
Gibsonburg, Ohio
Fostoria, Ohio
Sugar Ridge, Ohio
Tiffin, Ohio
Genoa, O.
Limestone, Ohio
Lime City, Ohio
Portage, Ohio
Luckey, Ohio
Bedford, Ind.

MANUFACTURERS OF AND WHOLESALE DEALERS IN

Ohio and Indiana White Finishing Lime, Ground
Lime, Lump Lime, Fertilizer, Hydrate Lime,
Cement, Plaster, Hair, Etc., Etc.

MAIN OFFICE: Huntington, Ind. Branch Offices: Marion, Ohio.

Capacity
8000 Barrels
Per Day

O'HO, YE DEALERS!

We Sell Lime and Hydrate

Do We Sell You? If Not, Why Not?

WRITE US

The Kelley Island Lime and Transport Company, CLEVELAND, OHIO

GLENCOE LIME AND CEMENT CO.

MANUFACTURES LIME AND LIMESTONE FOR FLUXING

DEALERS IN Lime, Cement, Plaster, Hair, Etc.

915 Olive Street

ST. LOUIS, MISSOURI

High-Grade,
Wood
Burned

Hart & Page
LIME

Plants at
Rockford and
Ruby, Ill.
Sales
Department
Rockford, Ill.

FOWLER & PAY

Brown Hydraulic Lime, Austin Hydraulic
Cement, Jasper Wall Plaster, Brick, Stone

CEMENT WORKS: Austin, Minn.
PLASTER MILL: Ft. Dodge, Iowa
WAREHOUSE: Minnesota Transfer

MANKATO, MINN

CROWN HYDRATE

HIGH CALCIUM HYDRATED LIME

The Most Perfect Hydrated Lime Made

Kritzer Vacuum Process

MARBLEHEAD LIME COMPANY

KANSAS CITY

CHICAGO

Tell 'em you saw it in ROCK PRODUCTS

Below is given a letter received from C. W. S. Cobb President of the Glencoe Lime and Cement Co., of St. Louis, Mo. endorsing the Gas Producer Plant recently installed for his company.

Glencoe Lime and Cement Co.

St. Louis, May 2, 1910.
Mr. E. Schmatolla,
150 Nassau St.,
New York City.

My dear sir:

We confirm herewith that you left our new lime kiln and gas producer which you designed and lighted for us in good working condition. The Producer gives plenty of gas on natural draft even with an inferior (slack) coal which we have to use in consequence of the miners' strike. Thus far the coal consumption and output under adverse conditions are satisfactory, and we are greatly pleased with the simple and easy manner in which the kiln can be worked.

After our men become more familiar with the system, and a few details are worked out, we expect still better results than you have promised. The quality of the lime made by this gas system is entirely satisfactory.

I am,
Yours very truly,
(Signed) C. W. S. COBB,
President.

ERNEST SCHMATOLLA CONSULTING ENGINEER

150 Nassau Street, New York City

Branch Offices in London and Berlin

Specialist in designing, constructing and operating Gas Producers, Furnaces and Kilns for Rock Products, Chemical and Metallurgical purposes.

Longest experience and greatest success in PRODUCER GAS FIRED SHAFT KILNS for burning lime, dolomite and magnesite.

Many of these kilns, with daily outputs ranging from one to fifty tons per day, have been built in Germany, Austria, England, Russia and other European countries, also in America, Africa and Australia. Greatest economy in fuel and labor; very simple in operation, high class product, natural draft, all kinds of fuel, hard and soft coal, lignite, peat, wood and wood refuse. Best references.

MONARCH HYDRATED LIME

Cheaper and Better than LUMP LIME



Its value to you is greater because—

- It costs less to handle—
- It can be thoroughly soaked in 24 hours—
- No screening required—
- Carries more sand—
- Gauges with a third less plaster—
- Spreads further—
- Easier—
- Will not air slack—

You will be a MONARCH MAN if you once try
MONARCH HYDRATED LIME.

Our prices satisfies. Write us.
"We ship sudden"

The National Lime & Stone Co.

CAREY, OHIO

Limestone and Shale

FOR MANUFACTURE OF:

Portland Cement

ON THE

Illinois Central Railroad

THE

WEST AND SOUTH

Coal, Water and Good Labor

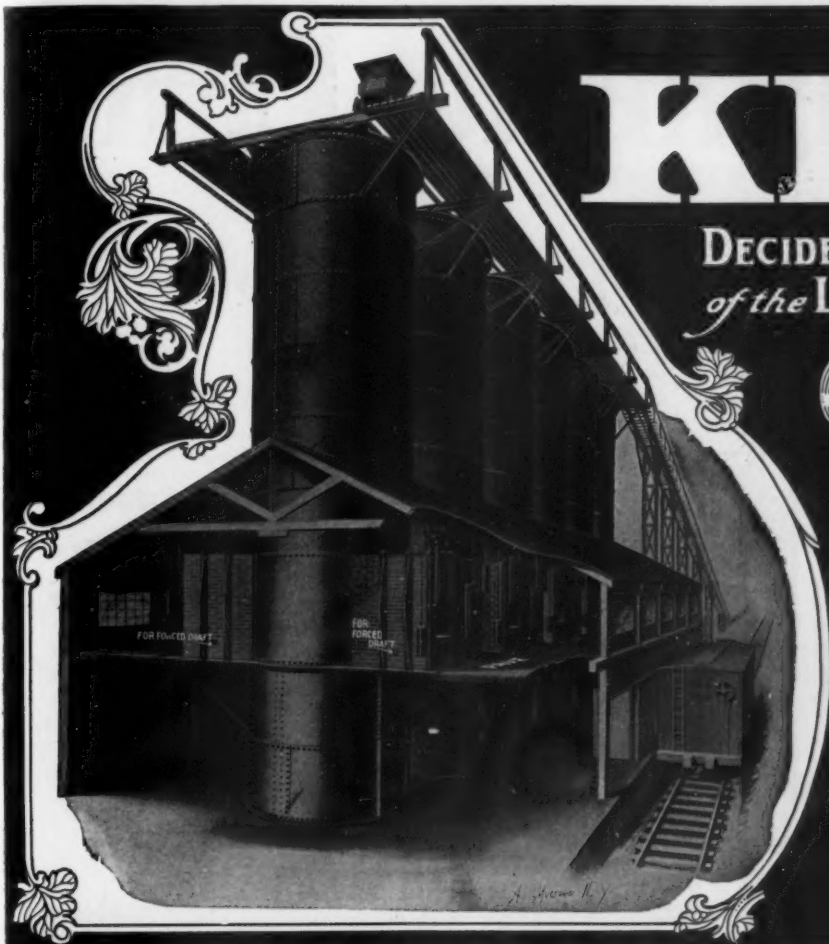
[For Full Particulars Address]

J. C. CLAIR, Industrial Commissioner

I. C. R. CO.

No. 1 PARK ROW, CHICAGO

Tell 'em you saw it in ROCK PRODUCTS



KILNS

DECIDE *the* EARNING CAPACITY
of *the* LIME MANUFACTURING PLANT

THE KEYSTONE LIME KILNS (Patented)

*are famous money makers
and express the highest type
of modern development.
There's none quite so good,
and the price is right.*

FULL PARTICULARS
WILL BE CHEERFULLY FURNISHED

STEACY-SCHMIDT
MANUFACTURING CO.
YORK · PENNA

A. & C. Stone & Lime Co.

General Office: Indianapolis

Crushed Stone and White Lime

Sales Office at each Plant

Greencastle, Ind.

Portland, Ind.

Ridgeville, Ind.

Lime Kilns at Portland, Ind.—Crushers at all 3 Quarries

Write the Plant nearest your Work for Prices

CRUSHED STONE, all sizes, SCREENINGS CLEAN

Connections with 6 Railroads

Modern Machinery and Screens

Tell 'em you saw it in ROCK PRODUCTS

Banner Hydrate Lime

Manufactured at Gibsonburg, Ohio, by the
National Mortar & Supply Company
 Offices: Pittsburg, Pa.

Daily capacity 150 tons

Ask for information

Mr. Lime Manufacturer:

Do you know that every lime plant that employs the BATES SYSTEM of bagging their lime is doing it at a LESS COST than you do if you do not employ that SYSTEM? IT'S A FACT. Our lime, cement and plaster sacks are giving universal satisfaction. We GUARANTEE the quality.

**The Urschel-Bates
 Valve Bag Co.** TOLEDO,
 OHIO

MITCHELL LIME

Is Chemically Pure and Practically Free from Waste

The Strongest White
 Lime on the Market.
 Used and recommended
 by Sand-Lime Brick
 Manufacturers, Chemists,
 Soap and Glue Works,
 Plasterers and Masons.

Prices Cheerfully Submitted

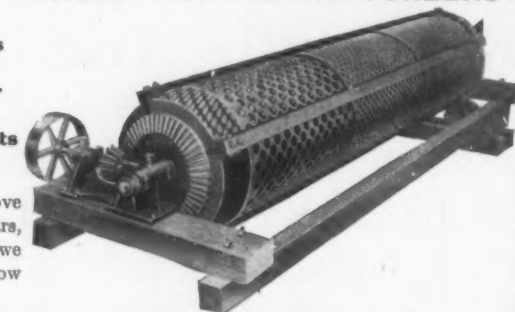
Mitchell Lime Company
 MITCHELL, :: :: INDIANA



Elevators

Elevator

Buckets

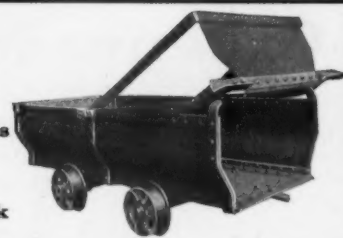


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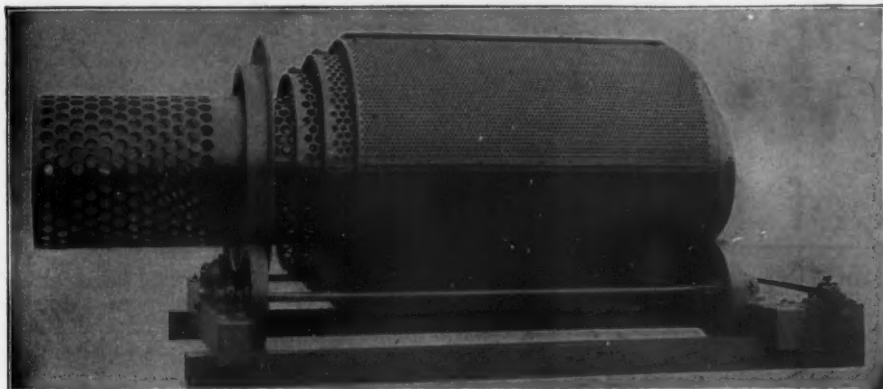
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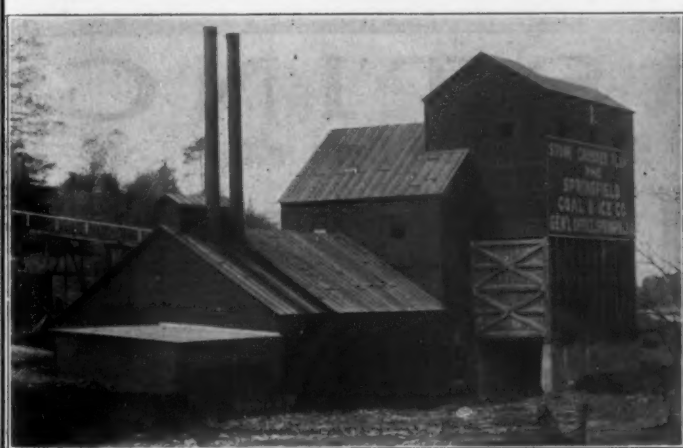
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Amatite on American Sanitary Works, Washington, N. J.



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Probably no ready roofing but Amatite would give any satisfaction under such conditions of exposure as on the roof of the American Sanitary Works, illustrated herewith. The smoke of the railroad and from the factory's own stack, the heat and the fumes incident to the manufacture of sanitary ware, especially the heat of the kilns, all combine to test a roofing to the utmost.

In 1905 this factory was roofed with Amatite—15,000 square feet of it. Four years later the manufacturers write us as follows:

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Dear Sirs:—We have used your Amatite Roofing for the last four years and are pleased to recommend same, as we think it is the most durable roofing of its kind in the market today. We placed it on a dry kiln about four years ago, which is a severe test on any roofing material, and it has given perfect satisfaction. Having built a new kiln this year we used the same material. We have also used it on the addition to our factory which was built this year.

Yours very truly,
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H. A. MAYO, Asst. Treas."

Undoubtedly any ordinary ready roofing would have required painting at least every year under these conditions. Amatite, however, *never requires painting* because it has a mineral surface which is better and more durable in every way than paint could possibly be.

That is the way a roof *ought* to be made. A roofing which has to be painted every little while so that it will not leak is no roof at all. Any kind of paper or cloth could be used for a roof if you were content to paint it often enough and thick enough. The paint on ordinary roofings constitutes the real roof.

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Free sample on request.

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See Other Advertisement
Page 65

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Cleveland, Ohio.

Seven plants in successful operation producing about 1,500 tons per day.

THE WINANT COOPERAGE CO.

Staves, Hoops and Heading for Lime,
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The most secure fastening in concrete as well as in stone.
Send for Samples.

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CHEERFULLY FURNISHED ON APPLICATION.

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PLACE AN AD
IN OUR
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ESTABLISHED IN LOUISVILLE, KY., 1902.

DEVOTED TO CONCRETE AND MANUFACTURED BUILDING MATERIALS.

Volume IX.

CHICAGO, MAY 22, 1910.

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THE FRANCIS PUBLISHING COMPANY

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Communications on subjects of interest to any branch of the stone industry are solicited and will be paid for if available.
Every reader is invited to make the office of Rock Products his headquarters while in Chicago.
Editorial and advertising copy should reach this office at least five days preceding publication date.

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Subscriptions are payable in advance, and in default of written orders to the contrary, are continued at our option.
Advertising rates furnished on application.

Entered as second-class matter July 2, 1907, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879.

Try talking quality and not price.

As the grass grows, so does the price of cement. Of course, you have noticed it in the quotation sheets.

Fuel costs are a bit higher with the advances in coal, which does not promise any relief in the near future.

Anybody can sell the output of his mill or factory, but selling this output at a price is real salesmanship. Let's have a little more salesmanship.

Proper proportioning of the aggregate, sufficient water and adequate agitation are the three great essentials for good concrete. Don't overlook any of these.

Plaster mixers who operate modern plants want to get busy with the best exterior goods that they can produce, and put it with the trade. The architects want the goods, and it's one of the places where business can be extended in a healthy way.

Concrete building blocks have a firmly established place in the building material markets. When made equal to the standard specifications of the National Cement Users' Association there is nothing better known for the purpose. In fact, there are few materials nearly so good.

There is no room for the grouch in business. Some men seem to think that if they smile and say that conditions are improving that something will happen. Yes, something will happen—your customers will catch the fever and smile too. Then they will pass it on, until we are all in a happy frame of mind. Try it and see.

Since the American Association of Sand Lime Brick Manufacturers adopted a standard specification for the quality of that commodity there has been great and gratifying progress all along the line. It is by no means the first time that a standard of excellence has helped, and even made the difference between a losing and a paying business.

The consumption of Portland cement is rapidly approaching the figure of one barrel per capita per annum in the United States. New mills coming into bearing this year are of such large capacity that it is practically certain now the ratio of expansion will be maintained for 1910. This means 70,000,000, and possibly 75,000,000 barrels. Think of it!

Waterways improvements are steadily growing in importance by neglect. The great transportation problems cannot be solved by political compromise and by begging the question. Railroad tonnage today inadequate, although overworked, cannot keep up with the pace of expansion necessary to the needs of commerce where the population doubles in less than thirty-five years.

Utilization of waste is the keynote to making money in the quarry business as well as in every other line of human endeavor. It is a well known fact that the packers have utilized everything but the squeal of the pig, and someone has facetiously remarked that the time will come when this will be canned as well. These same methods should be applied to the quarrying industry. There should be no such thing as waste, for "wilful waste means woeful want."

The teaming department of the supply dealers' business is one of the first importance. Probably there are more unseen losses right here than in any other department of the establishment. Wagons drawn by horses will doubtless always be the medium of deliveries for all time, although the automobile is making a good showing for long hauls under certain conditions. Strange as it may seem, we hear very little upon this important topic at any of the dealers' meetings. Wagons and horses employed in delivering building supplies constitute a very great part of the total investment.

Few supply concerns in this country have anything like an intelligent cost system to show the dissected charges for handling materials. Some concerns, whose total business is beyond the million mark, admit that they pay one bill and collect another, always hoping that the latter provides for a profit by being somewhat larger than the former. Exact facts are, in very few cases, obtainable upon any given shipment. Surely here is a place for improvement where it is badly needed. It is bad business not to know the exact cost, for frequently it is an expensive mistake to charge too much; not to charge enough is the only thing that is worse.

Experience with fires in connection with concrete construction always adds to the further endorsement of that wonderful material. The damage to concrete never seems to come from the fire, or from the effects of heat in any way upon the concrete, but from the failure of some other vulnerable and faulty part of the building, compromising the integrity of the concrete. We have heard the complaint of eminent insurance experts that little or no experience has been had with fires in buildings of concrete construction. No doubt it will serve quite as well to go on with that kind of construction, so long as the risk experience is so hard to obtain. Selah.

Last September, in these columns, we estimated the total consumption of cement in the United States for the year would reach the total of 61,000,000 barrels. The government statistics have just been published, which show that the actual count is between 61,300,000 and 62,000,000 barrels. At the time that the little editorial was printed last fall several parties prominent in Portland cement circles criticized the amount of our estimate as being entirely too high. To these gentlemen especially, and to the others who may have noticed the same item without taking the trouble to write about it, we wish to call attention that these figures show just how conservative our estimate was at that time, four months before the completion of the year's business.

EDITORIAL CHAT

John Wharry, general manager of the Northwestern Lime Company, of St. Paul, Minn., was in Chicago the past week conferring with his associates.

O. L. Stewart has recently taken charge of the Canton Lime & Fertilizer Company, of Canton, Ohio. The company makes a specialty of agricultural lime.

Fritz Worm, the genial president of the German-American Portland Cement Works at La Salle, Ill., was a Chicago visitor this week. Mr. Worm took part in the shippers' conference in their effort to prevent the railroads raising freight rates.

The Universal Portland Cement Company has recently adopted a voluntary accident relief plan for the benefit of its employees. The plan corresponds to one which has been made operative among all the subsidiary companies of the United States Steel Corporation.

Dan R. Brown, who for several years has been purchasing agent and chief clerk of the Mitchell mill of the Lehigh Portland Cement Company, has gone to Seattle, Wash., to take up a similar position with a new Portland cement company which is to come into being in that neighborhood.

Louis Boucheit, sales manager of the Mitchell Lime Company, reports a gradual awakening of the demand for chemically pure lime. Louis has recently made a trip to Florida and Mrs. Boucheit went with him. They had a very enjoyable time and both have returned with renewed health and strength.

A. H. Lauman, president of the National Mortar & Supply Company, of Pittsburg, Pa., and manufacturer of the famous Banner hydrate, was a recent Chicago visitor. He says in his quiet and unassuming way that things look just about right and that the big mill at Gibsonburg is running full capacity every day.

George Trombald has been appointed superintendent of the Ash Grove Lime and Portland Cement Company's plant at Chanute, Kas. Mr. Trombald succeeds C. J. Van Doren, who left this company. He has been chief chemist of the plant since it commenced operating.

L. L. Hutchison, assistant director of the Oklahoma Geological Survey, has just sent to press a special state report on the asphalt, oil and gas deposits of Oklahoma. This report is divided into two parts. In part one Mr. Hutchison gives a general map which shows that portion of the state in which asphalt occurs and the region where it is likely to be found. It also contains a geologic map of the asphalt bearing district and one showing the exact location of nearly one hundred known deposits, all of which have been visited by the author or his field assistants. This part of the report is closed with a chapter on asphalt paving, which contains invaluable suggestions to cities and towns which contemplate paving.

Part two is devoted to oil and gas. After reviewing the history of the industry and discussing the various theories of origin and accumulation of petroleum and natural gas, Mr. Hutchison discusses the geology of the Oklahoma petroleum and natural gas fields, and closes the work with a chapter devoted to the latest Oklahoma statistics and a review of past and present conditions in the field. This section of the report is illustrated by a general map showing the present developed areas, probable territory yet undeveloped, and those parts of the state where it seems possible that oil and gas may be found and by a geologic map of the oil fields and detailed maps, on a scale of one inch to the mile, which give the exact location of every well drilled in the various important fields prior to 1910.

This valuable report may be had upon application, as soon as it is off the press.

A. A. Pauly, of Youngstown, O., inventor, manufacturer and promoter of concrete structural tile upon the process which is known by his name, reports that he has recently completed arrangements with parties in Atlanta, Ga., for the establishment of an extensive plant to manufacture concrete tile at that place. We have been advised from another

source that a tile establishment will be started at Philadelphia as soon as the final arrangements concerning location, etc., can be completed by a company composed of gentlemen well known to the readers of ROCK PRODUCTS, and who will doubtless be ready for a formal announcement with our June number. The big Chicago factory is rapidly nearing completion, and their tiles will be ready for market within thirty days. Mr. Pauly further states that the plants manufacturing tile under his process are all reporting substantial progress, and that their orders for increased equipment indicates that they are rapidly increasing the volume of their product. There are fourteen factories in the United States, three under construction now, and quite that many more in foreign countries, so that the aggregate capital now working exclusively in the concrete structural tile business can only be measured in seven figures.

Al H. Gallagher, one of the most famous yachtsmen of the Toledo Yacht Club, and known to all the dealers in builders' supplies as the most eloquent apostle of the waterproofing contingent representing the line of the Maumee Chemical Company, wears that contented smile which shows that business is good and that the port of his line is well maintained. He is always closely in touch with the whole range of plaster improvements, and is one of the foremost advocates of plaster exteriors. He is due for an article in ROCK PRODUCTS on this subject, and will have to come across now that public notice of the same has been given. He knows some things in this special line, which will be of interest



AL. H. GALLAGHER, MAUMEE CHEMICAL COMPANY, TOLEDO, O.

to those plaster mixers who are looking for a bigger field for their product.

Miss Lillian M. Williamson, the young lady who won the materials for a concrete home at the recent Chicago Cement Show, has received almost 3,000 proposals of marriage from enterprising young men, but up to date all have failed to qualify. She admits to being somewhat particular in such a matter, obviously having had no previous experience. Her new home, which will be erected in Longwood this summer, will be occupied by her parents and herself—she being only 19 years of age, and employed in a banking office in West Englewood.

Chas. C. Kritzer, the hydrator expert, reports a very fine prospect of business in the field of his specialty. "Every customer who ever put in a Kritzer machine is running it to capacity, and quite a few have duplicated the first installation. The greatest markets of the East are using hydrated lime more and more, and there is more of the Kritzer kind than all others combined."

Arthur Druecker was absent from his desk several days last week suffering from a severe cold, showing symptoms of pneumonia. He has fully recovered from the attack this week and he is again

directing the affairs of N. F. Druecker & Co., the well known builders' supply firm of Chicago.

A. H. Halleman, president of The Templeton Lime Co., of Chicago, who underwent a successful operation at a Chicago hospital last winter, has been, up to a few weeks ago, slowly recovering strength, although at his desk every day this spring. Last week, however, he met his friends with that bright sparkle in his eye and the springy step for which he was noted in the early days of Chicago, ready to accept a challenge to a foot race or friendly wrestling match.

James E. Lill, the live dealer in builders' supplies at Edgewater, Chicago, is not only known as a great north side hustler but greatly admired as a chauffeur when he drives his five-seated touring car over the territory where his teams deliver material on the jobs. Lill's "white devil" is a beauty and "goes some" when he is at the wheel.

STATISTICS BY THE GEOLOGICAL SURVEY.

The commerce between the United States and the noncontiguous territories with respect to the domestic mineral products reported by the United States Geological Survey in the annual volumes, "Mineral Resources of the United States," is shown in the subjoined tables, prepared by W. T. Thom, of the Survey, for the calendar years from 1901 to 1909, inclusive. The figures here given are taken from the publications of the Bureau of Statistics of the Department of Commerce and Labor, and were reported by the collectors of the ports. Prior to the act of April 29, 1902, customs collectors were not required to furnish statements of shipments of merchandise between the United States and its noncontiguous possessions. With the exception of copper, fertilizers, and gold and silver, the shipments of domestic mineral products from the territories to the United States have been so insignificant as to be negligible and are therefore not given in these tables, although they are reported by the Bureau of Statistics.

Alaska was purchased from Russia March 30, 1867, and was made a district of the United States and a customs district by the act of Congress approved July 27, 1868. Hawaii was annexed by act of Congress July 7, 1898, and was made a territory and customs district by act of April 30, 1900, which took effect June 14, 1900. Porto Rico was taken possession of by the United States October 18, 1898, was ceded by Spain by treaty December 10 of the same year, and was given a civil government and made a customs district by act of April 12, 1900, which went into effect May 1, 1900. The Philippine Islands were ceded by the treaty of December 10, 1898, and were organized as an American possession by act of April 11, 1899.

Tutuila, Guam and the Midway Islands are under the control of the Navy Department and are not customs districts. The shipments between them and the United States are so small as to be negligible.

The record here given of the commerce in domestic mineral products between the United States and the noncontiguous possessions begins with the year 1901, although the record for that year does not include all the articles subsequently noted.

Cement.—The shipments of cement from the United States rose from \$81,000 in 1903 to \$276,000 in 1909, with a total for the period of seven years of \$1,297,000. Porto Rico leads the way with a total of \$822,000; Hawaii is next with \$364,000; Alaska, \$72,000; Philippine Islands, \$39,000. The causes controlling the shipments seem to be local, for while the shipments to Porto Rico were falling from \$208,000 in 1907 to \$141,000 in 1909, the shipments to Hawaii rose from \$38,000 in 1907 to \$112,000 in 1909; in like manner the shipments to Alaska fell during the same period from \$16,000 in 1907 to \$10,000 in 1909, while those to the Philippines rose from \$168 in 1907 to \$12,000 in 1909.

Clay Products.—The shipments of clay products rose in value from about \$13,000 (sent to Porto Rico alone) in 1901 to \$227,000 in 1909, the total for the nine years being \$1,299,000, of which \$958,000 was for earthen, stone and china ware and \$341,000 was for building, fire and other brick. Noteworthy are the exports of pottery, valued at \$342,000 to Hawaii, \$325,000 to Porto Rico, \$235,000 to Alaska, and \$52,000 to the Philippines. The largest shipments of brick were of fire and other brick, valued at \$129,000, to Porto Rico, the heaviest total shipments of building brick, \$63,000, being to Hawaii.

Lime.—The shipment of lime to the noncontiguous possessions is separately reported only for the years 1903 to 1907, inclusive; after 1907 lime was included under "All other articles." The only shipments of consequence were to Hawaii and aggregated \$364,000 in value for the five years. The total value was \$393,000.



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Meets Annually.

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Official Organ, ROCK PRODUCTS

IT'S STILL UP TO THE DEALER.

Our article last month entitled, "It's Up to You, Mr. Dealer," seems to have attracted a great deal of attention and yet it does not seem to have brought the result which it was hoped it would. The accuracy of our statements has been proven by the price of Portland cement having been very materially advanced to the dealer since our last issue, with little or no corresponding advance in the price the dealer is getting from the contractor for it. If the dealer persists in his blind, stubborn method of cutting off his nose to spite his face or in giving cement to his customer at cost so as to induce him to order other material from him, we prophesy that the dealer will have ample opportunity to make cement a leader similar to what the grocers make sugar, and we may look for the building material dealer to advertise something on these lines: "A barrel of cement given away with every purchase of \$10 or over."

To one who has seen the beneficial results obtained from an intelligent, law-abiding corporation, the action of the unassociated and disorganized dealers is enough to make angels weep. We speak with authority when we repeat our assertion of last month, that the time was never so ripe for the building material dealers to get together and obtain a fair margin for the handling of Portland cement as it is at the present day.

Who is going to take the initiative and enroll the dealers of each community into a solid, compact, enthusiastic organization, an organization

whose members will have two mottoes, "Live and Let Live" and "Don't believe all you hear about your competitors cutting prices?"

"News and Views," issued by the National Builders' Supply Association, has the following comments to make on the subject:

Chicago is considered the great western market. It advertises itself as such. It calls attention to its favorable location—to its progress—to its opportunities—to its "I will" of determination. The business men of the country appreciate the force of all Chicago's claims, and yet with all these good qualities, and in the face of all her claims, the building material dealers of that great city seem to be as wide apart in their methods of doing business as the two oceans that wash the extreme East and West of the continent, and the condition presented above seems to be the result.

That the dealers of Chicago appreciate the necessity for, and the advantage of, cooperative effort, was evidenced several months ago when an attempt was made to "get together." They have been repeatedly urged by the trade publications and by ROCK PRODUCTS in particular to "get together." They have also been pleaded with and urged by the National Builders Supply Association to "get together." Their own good common horse sense says "get together," and our own knowledge of their ability to "get together" and to "stick together" and to assist in the development of the same principle in the surrounding territory, is our only apology for emphasizing the article by calling attention to it, and for this open invitation to them to carry out to the letter the last clause of the article itself. For the good of the cause, and for the benefit of all, may this invitation, to the Chicago dealers and to the dealers of other large cities, be accepted as the unanimous cry of the trade, and we earnestly trust that our good friends will heed the cry, and secure to themselves, and to their fellow dealers, the benefit so plainly pointed out.

THE CIRCUIT SUPPLY CO.

Located at one of the most convenient and central points in that section of Chicago formerly known as South Chicago, at Eighty-third Street and Escanaba Avenue, the Circuit Supply Company has



OFFICE OF THE CIRCUIT SUPPLY COMPANY.

greatly increased its business in handling cement and a complete line of building materials. Its yard has a track frontage of 325 feet on the Baltimore & Ohio railroad, with a switch track from the main line of this railway running through the center of the yard. The yard covers seventeen city blocks, and its switch track in it accommodates eight freight cars.

Driveways run through the center and encircle the interior of the yard, admirably arranged for hauling and unloading cement, lime, plaster, brick sewer pipe and other material, including builders' supplies. Its warehouse is constructed of galvanized iron, close to the switch track, and has a capacity of storing 2,500 barrels of cement and plaster. Universal and Chicago A. A. are the principal cements stored in it. There are large sheds in various parts of the yard in which sewer pipe and fittings, wall coping, fire brick, coal and coke are stored. A barn in the yard, with all modern equipments, including a concrete floor and electric lights, stables the horses of the concern. The hand-

some two-story structure on the corner of the streets where the yard is located is used for its office force. The company has added many improvements in the last year to its yard and perceptibly increased its business under the popular management of F. M. Pierce, secretary of the company.

A CAR RECORD.

One of the principal problems which confront the dealers in builders' supplies is accounting for costs. Economy in every department is the basis of the profit account. It is necessary to have an accurate system of cost accounting, handling the material into the warehouse and accounting for cost of delivery. A form for the records of shipments is one of the best methods of detecting costly mistakes and errors.

We have taken a representative car record and invoice register, one of the many which were laid before us for consideration, and are reproducing it in order to give the builders' supply trade a good system which is not only complete in itself but very concise in form. We have substituted anonymous names for the name of the firm and the shipper.

Such a record as this may be kept by the loose leaf method and transfer sheets, and either kept monthly or until each is completely filled.

In this case, we have the page of cement shipments received from a certain company. We assume that the dealer has one yard and that the warehouse is on a switch of railroad which has the cement plant on it.

On the first line we have the record of the car bought of this company and reconsigned to a contractor in another city. The bookkeeper of the builders' supply man, as soon as he receives the bill of lading from the cement manufacturer, records the car number and initial. The contents of the car, which is cement, is put in one column, with date of shipment from the plant. In the next column we have the date when the notice is given by the railroad of the car's movement. From his records he indicates the date the dealer placed the order with the manufacturer. In this case the car in question was shipped over two lines of road. In the column devoted to the shipping the date when the second line of road received it is recorded. The car was set in the yard at 7 p. m. on the date and, as the contractor was using the material, he had it unloaded by 4:30 of the next afternoon, consequently the car was emptied and ready for return to the railroad at that time. The amount of the invoice is the price of the cement, including the cost of the bags. In the next column is the name of the road which made the delivery of the car and the rate per hundred is included in the rate column with the total amount of the freight kept separately from the bill. When the dealer pays his bill, it is recorded in the next column, as well as when he pays his invoice. The name of the buyer of the carload shipment is included in the column to whom the car was reconsigned, and the next column shows the time it was billed to the customer. A space is allowed for car service or demurrage, but as this car was unloaded in the allotted time, there was no record to be made.

We have on the second line an example of a car which was shipped to the yard of the dealer, the contents of which were put into the warehouse. In this we have all the records properly entered up, but on account of the delay in unloading, the car was held over the twenty-four-hour limit, consequently there was demurrage to be paid. This is carried out in the car service account, and the charge made of this against the order.

This, indeed, is a very comprehensive record of car movements. An exact account is kept of the movement of the car from the time it leaves the plant until it is unloaded and off the dealer's hands.

THE CENTRAL BUILDERS SUPPLY CO.

CAR RECORD AND INVOICE REGISTER

Name of Shipper

Blank Portland Cement Co

Address

Cement, Ill.

Car No	Initial	Contents	Date of Shipment	Date of Receipt	Date of Delivery	Date of Return	Del. to Yard	Unloaded	Amount of Invoice	R. R.	Rate of Freight	Freight Paid	Invoice Paid	Yard	Reconsigned to	Date Current	CAR SERVICE
7287	6 x B	Cement	3/26 3/26	3/27 3/27	3/28 3/28	3/29 3/29	3/29 3/29	3/29 3/29	24000	6 x B	44	44	44	44	Smith Contracting Co	4/2	
42242	5 x F B	Cement	3/26 3/26	3/27 3/27	3/28 3/28	3/29 3/29	3/29 3/29	3/29 3/29	18000	6 x B	44	44	44	44	Warehouse	4/7	100

Whenever any question comes up as to the disposition of this car or any other of the numerous questions which arise in the handling of cars, by referring to this record a full report is seen at a glance. This means that it is not necessary to be digging up some old records, bills of lading, bills from the cement company, and receipts of all kinds. While it is necessary to have all these on hand, they can be filed away and only referred to in case more detailed information is required on the subject.

The dealer can have a form for each company with which he does business and, in this case, a record from each manufacturer is kept on a separate sheet, as well as each of the lines he carries.

PERMANENT CONFERENCE COMMITTEE.

The Association of American Portland Cement Manufacturers has appointed the following gentlemen to represent that association in the Permanent Conference Committee referred to at the recent convention: John B. Lober, chairman; A. H. Craney, Bethune Duffield, Edgar M. Hager, R. S. Sinclair and C. H. Zender.

Charles Warner, president of the National Builders' Supply Association, has appointed the following gentlemen to represent the association in the Permanent Conference Committee: Frank S. Wright, chairman; Ambrose Tomkins, V. H. Kriegshaber, Edward S. Walton, Gordon Willis and Charles Warner (ex-officio).

It is the earnest hope of the Joint Committee that much good will be accomplished for the mutual benefit of manufacturers and dealers, and that the relationship thereby established will unite these forces in a bond of friendship and activity that will materially improve conditions and advance the individual interests involved.

KEEP ON FILE MANY CATALOGUES.

The Southwestern Material & Supply Company, whose main offices are located in the Bassett building, Oklahoma City, Okla., keep constantly on hand a file of all catalogs, descriptive literature, etc., which is issued by manufacturers of every class of material used in the construction of buildings. This commercialists and specialized library also includes the catalogs of manufacturers of machinery such as is used by contractors and the equipment of plants for the manufacture of various building materials. These catalogs are alphabetically arranged and kept for the use of visitors at the office of this concern, and they find that it is the means of bringing many people who are in need of such information into their office, and it is a matter of mutual accommodation in many cases.

This concern also makes a practice of furnishing inquirers with the facts concerning the development of the wonderful new city in the Southwest, as well as the territory which lies immediately around about. In this way they add to the progressive interest in their locality and this is the type of citizens which has made the wonderful growth of Oklahoma a matter of history in the last few years. We would suggest that many of our readers and advertisers may do well by sending a copy of their catalog to this concern to be placed in this library, because it would there be very likely to be seen by parties who would like the address to make application for the same at first hands.

RETAILERS OF HIGHLAND PARK, ILL.

The Highland Park Fuel Company has the most modern, up-to-date building material yard in Highland Park. J. J. Parker is the manager. It started in business here one year ago, built a new warehouse 30'x60'. Its yard is 200'x188', with two main driveways admirably arranged for handling promptly and economically the Universal Portland cement, the plasters of the United States Gypsum and Grand Rapids Plaster companies, lime in bulk and hydrate, sewer pipe from Wm. E. Dee, Chicago, fire brick, flue linings and a full line of builders' supplies. It is on the Chicago & Northwestern Railroad and it is contemplated to run a switch track from this road through the yard, making its shipping facilities the best in the town, and a barn for stabling its horses will be built before fall. Ed. T. Maechtle, assistant manager, said: "The reason this month's business has only been fair is that all the spring building has been completed and summer construction will not begin until June 1, when there will be plenty of business for us to do. Prospects look very good."

T. M. Clark, manager for John Middleton, said that business in Highland Park this year had been dull, this month proving no exception, and could not tell what business would develop in the future. He did not consider the outlook very bright. This yard was started here in 1887, has a warehouse holding about 250 barrels of cement. Cement, lime in bulk,

plaster, sewer pipe and flue lining are handled in this yard.

Ed. Laing, a well known and extensive street paving contractor in Highland Park, has put his yard in shape recently for handling a large and complete line of cements, plasters, lime, sewer pipe, fire brick, fire clay, flue lining, etc. He has been doing a good builders' supplies trade this spring and with the many improvements he contemplates making this summer will be able to take care of the large business falling to his share.

The North Shore Fuel Supply Company has a branch yard in Highland Park.

LAUNCH CONCRETE BARGE.

According to report the Panama Canal Commission has just launched on the banks of the Panama Canal a big barge built of reinforced concrete, which weighs 60,000 pounds, and two others will soon be finished. These vessels, it is said, are unaffected by sea worms; marine vegetation does not adhere to them, and they are practically indestructible.

DEATH OF HENRY FRERK.

Henry Frerk, one of the oldest and best known builders' supplies dealers in the north division of the city of Chicago, died last Tuesday, May 17. He was born in Marne, Germany, September 14, 1848. In 1867 he came to Chicago and laid the foundation of his extensive business in 1888. He had been in poor health for a long period. He



THE LATE HENRY FRERK OF CHICAGO.

spent a year and more in Southern California, returning last fall not much improved by change of climate. Many kindly expressions of sorrow were voiced by manufacturers and dealers, his associates in the trade, by whom he was well liked and held in high esteem for his many sterling qualities of character. He was buried in Eden cemetery Sunday, May 22. The business will be continued under the management of his sons, Alfred and Otto.

The William Kelly Company has been incorporated at Brooklyn, N. Y., with a capital stock of \$50,000 to deal in lime, cement, lath, brick and other building materials. Incorporators are: William Kelly, Daniel J. McCoy, both of 407 Hamilton avenue, and Frank E. Johnson, Jr., 215 Montague street, all of Brooklyn.

The William Brooks Company has been incorporated in New York City to deal in sand, cement, lumber and building materials. Capital stock, \$25,000. Incorporators, T. J. Brooks, A. E. Brooks, New York City, and W. A. Farrington, Brooklyn.

The Yakima Concrete and Builders' Supply Company, of North Yakima, Wash., has been incorporated with a capital stock of \$20,000 by W. W. Felton, B. F. Young, C. H. Wimer and A. H. Smith.

The Western Cement Company, of Louisville, Ky., has ceased to do business and is now winding up its affairs. The brands of cement for which the Western company has been sales agent will hereafter be sold by the representatives of the manufacturers of the same or their sales agents.

COST OF LIVING

Would be Reduced by Adjusting Equalizing and Systematizing Our Method of Hauling and Handling Raw and Finished Materials.

Adjustments and equalizing of freight rates upon heavy materials is a problem which has barely been commenced. We are prone to look upon the findings of classification and rating associations as final and investments and permanent business arrangements are made based thereupon. As a matter of fact the whole category of classification and rates as they now exist, consists of a tangle of compromises which are as transitory as the conditions which bring them into existence. Consumers of every class of goods are beginning to understand that a large slice of the cost of materials and products of every description is made up of the carriage and handling charges. This is a burden amounting to a task, which has a direct bearing upon the selling price of every conceivable product. As a tax it is administered entirely by the employees of railroad corporations and the representatives of the shippers, and so administered the price of commodities is fixed both for the producer and for the consumer. The transportation tax as expressed by rate agreements collected in the price of every article purchased, amounts to a great deal more than all of the taxes levied by and in support of the government in every way. We, as a people, are over particular about the administering of the taxes which are expended in the support of the functions of the government, and thus we strain at a gnat while we swallow the camel of much larger taxation without even winking at it.

Now comes the discussion of the cause for the advanced cost of living. Every consumer of the products of the earth recognizes this, and to us it seems remarkable that no attention whatever is cast in the direction of much the heaviest taxation that any people at any time in the world's history have been called upon to support. In spite of the fact that American inventors and American builders of machinery compare very favorably with those of other nations of the earth, yet the fact remains that the freight handling equipment at railroad terminals and at the docks of American ports, together with the landings on canals and rivers, are poorer than in any other civilized country.

With a very few remarkable exceptions, all of the vast tonnage of the railroads of this country is handled by hand in exactly the same manner that the Venetians loaded their vessels during the Middle Ages. A modern traveler for efficiently handling heavy freight is a remarkable exception and one that is noted and quoted promptly whenever such matters are mentioned. It is quite certain that no investment would yield such quick returns to the consumer, and to the carriers as well, as to equip terminals with modern freight handling devices, and that it would offset to a considerable extent the item of the high cost of living. Under modern methods of doing a very large volume of business we have outgrown the methods of a generation ago. Teaming in the larger cities which was an insignificant item to the merchant of fifty years ago has today become a controlling factor in the cost of the delivery of merchandise. The item of maintenance of the street becomes a factor in the cost of living by the route of the rent bill, which the landlord puts into the rent by reason of the municipal taxation. As a matter of fact the whole cost of transportation and delivery of goods from the producer to the consumer constitutes a great disorganized mass of waste uncertainty and needless expense. What is wanted and what will come in the near future is a complete systematization of this momentous and all-important problem. It cannot be accomplished by a group of railroad traffic clerks working with the traffic clerks of heavy shipping organizations, nor can the rehandling and teaming business be brought from chaos into order by a few of the retail merchants in various lines drawing up a coöperative bill of costs and list of rules and regulations. If our idea of constitutional government is correct, that the administration of taxation must be handled by the body politic, then the sooner the federal government erects a department of traffic the better for this people, both great and small, rich and poor. Classification established in equity, rates decided in justice with adequate terminal equipment will give greater net earnings to the carriers and relieve at least half the burden from the producers and the consumers.

Systematic plans for rehandling of materials and merchandise from railroad and marine companies to points of economical distribution could easily be organized in every considerable community by utilizing the tracks of the street car companies in

those hours in which for passenger traffic they are practically abandoned. In this way the wear of the streets would be saved on all long hauls because the long haul would thus be entirely eliminated, and from the distributing siding of each locality, which may be only a few blocks, always within the radius of a half mile, would make short hauls and quick and cheaper service. No such plan as this has ever been worked out in detail. It may require a genius to do it, and the backing of millions. But it is quite certain that an organization of this kind, the systematizing of the delivery of freight, economy in the rehandling, proper equipment with traveling derricks, locomotive cranes and the like at railroad and marine terminals, will pay great big dividends because it will reduce the cost of living to the consumer by conserving expenses that now amount to waste, and which is unquestionably just about half the cost of the service as now practiced by the carriers and the business world, and charged to the consumer, as he who must ultimately settle all bills. Here is one practical, logical and distinct path to take up the question of reducing the cost of living. It is one of the big things which is overlooked, perhaps, for the reason that it surrounds and covers almost every commercial act as one sees the activities of the present day. We would invite a discussion of this question by some of the readers of Rock Products, many of whom are in a position to add big things to this rather unfinished thought upon a very extensive subject.

CHICAGO MACHINERY MEN OPTIMISTIC.

H. S. Quick & Co., of 300 West 64th Street, Chicago, manufacturers of the Monarch Fence Fastener, Monarch Steel Reinforcement, the National Post Machine and Rock Island Fence Fastener, report that inquiries have been rather backward this month. The two months previous to May they received many more orders than last year, and believe that the "let up" in business in May is only temporary and that the outlook for this summer and fall is unusually bright.

F. C. Wilcox, of the Foote Concrete Machinery Co., said, "Business is as good as last year and prospects are brighter. Inquiries for concrete machinery have fallen off some, but I believe this condition will not last long and that we are facing a very active season."

H. Channon, of the H. Channon Company, said, "Inquiries this month for hoists, derricks, cars, mixers, barrows and shovels have been fair and we anticipate an active trade the coming season."

Philip and Adam Beitch, of Chambersburg, Pa., have formed a partnership and will engage in the manufacture of concrete blocks.

The White Fireproof Construction Company has removed its New York offices from No. 1 Madison Avenue to large and more commodious quarters at 286 Fifth Avenue.

A. J. Williams and H. D. Adams have purchased machinery for the manufacture of cement tile at Clear Spring, Ind.

The Clark cement works at Kenmare, N. D., which were recently destroyed, at a loss of about \$5,000, is to be rebuilt.

The Puget Sound Asbestos Plaster Company, of Tacoma, Wash., has been incorporated for \$250,000 by Charles H. Ross, F. H. Stewart, W. J. U. Simpson and H. F. Norris.

Bert Martindale, of Seabreeze, Fla., will establish a plant for manufacturing concrete from cement and pearl grit. It is his idea to build a bungalow as a demonstration.

The Cement Products Company's tile plant at Escherville, Ia., of which L. L. Bingham is the head, was damaged by fire to the extent of \$1,800.

Martin Taylor will establish a drain tile plant at Brown City, Mich. The buildings have already been completed.

The Raymond Concrete Pile Company, of New York and Chicago, has been awarded the contract for the placing of concrete piles in the foundations of the Puyallup viaduct, Tacoma, Wash. Northwest Bridge Company, general contractors; Wilbur Raleigh, city engineer.

The entire plant of the Eagle Grove tile factory at Eagle Grove, Ia., was destroyed by fire recently. Plans are being perfected for rebuilding.

STANDARD SPECIFICATIONS FOR REINFORCING STEEL.

The Association of American Steel Manufacturers has just announced the formal adoption by letter-ballot of a standard specification governing the chemical and physical properties of concrete reinforcement bars. This announcement is an important one, since it is the first specification to appear which could be called authoritative; it also differs from the many specifications under which steel for reinforcement has been manufactured up to this time in the fact that hard steel as well as the usual medium grade is included, in both plain and deformed sections; also in providing standards for the manufacture of cold-twisted bars.

The Association of American Steel Manufacturers is a technical body composed of the principal steel manufacturers of the United States. A remarkable feature of the promulgation of the new specification is the fact that this association was the first of the technical societies to formulate a specification for structural steel—the well known Manufacturers' Standard—just as it is now the first to cover this newer field.

The need for a standard specification for these forms of construction materials, of which an enormous tonnage is used, has grown very apparent to both engineers and manufacturers, so that there is reason to expect that the Manufacturers' Stan-

PROPERTIES CONSIDERED	STRUCTURAL STEEL GRADE		HARD GRADE		COLD-TWISTED BARS
	PLAIN BARS	DEFORMED BARS	PLAIN BARS	DEFORMED BARS	
Phosphorus, maximum, Bessemer open-hearth	.10 06	.10 06	.10 06	.10 06	.10 06
Ultimate tensile strength, pounds per sq. in.	55/70,000	55/70,000	80,000 mm.	80,000 mm.	Recorded only
Yield point, minimum, pounds per sq. in.	33,000	55,000	50,000	50,000	55,000
Elongation, per cent in 8" minimum	1,400,000 T.S.	1,250,000 T.S.	1,200,000 T.S.	1,000,000 T.S.	5%
Cold bend without fracture Bars under 3/8" in diameter or thickness	180° d-1t	180° d-1t	180° d-3t	180° d-4t	180° d-2t
Bars 3/8" in diameter or thickness and over	180° d-1t	180° d-2t	90° d-3t	90° d-4t	180° d-3t

The hard grade will be used only when specified

standard specifications for concrete reinforcement bars will be very generally employed.

Following are the requirements:

Manufacture.

1. Steel may be made by either the open-hearth or Bessemer process. Bars shall be rolled from billets.

Chemical and Physical Properties.

2. The chemical and physical properties shall conform to the following limits:

Chemical Determinations.

3. In order to determine if the material conforms to the chemical limitations prescribed in paragraph 2 herein, analysis shall be made by the manufacturer from a test ingot taken at the time of the pouring of each melt or blow of steel, and a correct copy of such analysis shall be furnished to the engineer or his inspector.

Yield Point.

4. For the purpose of these specifications, the yield point shall be determined by careful observation of the drop of the beam of the testing machine, or by other equally accurate methods.

Form of Specimens.

5. (a) Tensile and bending test specimens may be cut from the bars as rolled, but tensile and bending test specimens of deformed bars may be planed or turned for a length of at least 9 inches if deemed necessary by the manufacturer in order to obtain uniform cross-section.

(b) Tensile and bending test specimens of cold-twisted bars shall be cut from the bars after twisting, and shall be tested in full size without further treatment, unless otherwise specified as in (c), in which case the conditions therein stipulated shall govern.

(c) If it is desired that the testing and acceptance for cold-twisted bars be made upon the hot rolled bars before being twisted, the hot rolled bars shall meet the requirements of the structural steel grade for plain bars shown in this specification.

Number of Tests.

6. At least one tensile and one bending test shall be made from each melt of open-hearth steel rolled, and from each blow or lot of ten tons of Bessemer steel rolled. In case bars differing 1/8-inch and more in diameter or thickness are rolled from one melt or blow, a test shall be made from the thickest and thinnest material rolled. Should either of these test specimens develop flaws, or should the tensile test specimen break outside of the middle third of its gauged length, it may be discarded and another test specimen substituted therefor. In case a tensile test specimen does not meet the specifications, an additional test may be made.

(d) The bending test may be made by pressure or by light blows.

Modifications in Elongation for Thin and Thick Material.

7. For bars less than 7-16-inch and more than 1/4-inch nominal diameter or thickness, the following modifications shall be made in the requirements for elongation:

(e) For each increase of 1/8-inch in diameter or thickness above 1/4-inch, a deduction of 1 shall be made from the specified percentage of elongation.

(f) For each decrease of 1-16-inch in diameter or thickness below 7-16-inch, a deduction of 1 shall be made from the specified percentage of elongation.

(g) The above modifications in elongation shall not apply to cold-twisted bars.

Number of Twists.

8. Cold-twisted bars shall be twisted cold with one complete twist in a length equal to not more than 12 times the thickness of the bar.

Finish.

9. Material must be free from injurious seams, flaws or cracks, and have a workmanlike finish.

Variation in Weight.

10. Bars for reinforcement are subject to rejection if the actual weight of any lot varies more than 5 per cent over or under the theoretical weight of that lot.

GRAND COMPARTMENT MAUSOLEUM.

More than forty-three compartment mausoleums have been erected and dedicated by the National Mausoleum Co. up to the present time. W. T. Hood, vice president of the company, said: "We are continually building more of these mausoleums throughout the various cities of the middle states and at no distant day will have one in the cemeteries of every populous city in the United States. The people are beginning to understand and appreciate laying away their dead in crypts of our mausoleums, with their beautiful surroundings, which appeal to the eye, and make the visit to those that are gone one of comfort, bereft of unpleasant emotions. The site for the Grand Compartment Mausoleum in beautiful Oak Ridge Cemetery, Springfield, Ill., has been selected near the Tanner Tomb and Lincoln Monument. This building when completed will contain 1,008 crypts."

WILL MANUFACTURE CEMENT BRICK.

Hoosick Falls, N. Y., May 19.—J. P. Powers and James S. Bradley have purchased twenty-seven acres of land at North Hoosick upon which is found a fine quality of sand for the manufacture of cement brick. A company will be formed, and it is proposed to soon have a plant in operation.

\$175,000 CONCRETE BRIDGE.

Pittsburg, Pa., May 17.—Taxpayers have voted \$175,000 worth of bonds for the building of a reinforced concrete bridge on Lorimer avenue over Beechwood boulevard. The plans call for a structure 630 feet long, with a roadway of 50 feet and 10-foot sidewalks. The main span will be 300 feet and will stand 115 feet above the boulevard.

CONCRETE BLACKBOARDS.

One of the recent developments in the use of concrete is the concrete blackboard.

For years chemists, plasterers and blackboard men have been working on the perplexing problem of how a black plastic board could be troweled to a smooth surface without producing a gloss, but without success. A liquid concrete finish has been perfected that when applied to the wall makes a black board that is more perfect than slate.

The foundation is concrete applied to an ordinary brick or wire lath wall, and is absolutely waterproof. The finish is a cement, and naturally assimilates with the foundation and becomes a part thereof. As the board can be applied either to brick or metal lath, it saves the rough cost of plaster specified where slate is to be installed. The surface of this board is smooth, which consumes very little chalk, and eliminates to a great degree the dust, which is the worst problem to be contended with in the school room. A dead finish is produced, giving no reflection, which is generally so injurious to the eyes, making it possible to see this board from any angle of the room. As it is made on the wall, there are no joints or seams, which are insanitary, no unprotected edges to chip off, and it is absolutely noiseless.

The walls for plastic boards, heretofore, have been too soft to stand the wear and tear of hard work; holes were easily punched in the plaster, which soon grew larger, and it was impossible to patch them and make a smooth joint. This will not happen with the cement board, as it is too hard to break under anything short of a blow with a hammer.

FROM OUR OWN CORRESPONDENTS

BALTIMORE.

Baltimore, Md., May 18.—The advancement of spring seems to have stimulated the cement market in this city, and with the enormous amount of work going on the indications are that conditions will be good during the balance of the year. March and April were fairly good months for the trade, and so far this month business has been fairly good.

The one drawback to the business in this vicinity which seems to hold on with a tight grip is the price cutting among the dealers. Nearly every cement concern in Baltimore is selling their products at rock bottom prices and it is said that very little money is made on anything less than an exceptionally large order.

H. W. Classen, of the Maryland Lime & Cement Company, says the market here has been quiet during the first part of May, but there is a great deal of work going on. He spoke of the large number of dwellings being erected in the suburbs, but said that very little concrete construction is put in them.

"There really has been very little change since last month," he said, "and the extremely low prices continue to hold the market down to a point where it is hard to make any money. There is a great deal of work going on in the business section of the city, and also much sewerage and paving work going on."

The representative of Rock Products visited the site of the new \$1,500,000 cement plant of the Tidewater Portland Cement Company, which is being erected at Union Bridge, Md. The present outlook is that when completed it will be one of the finest cement plants in the country, and it is only a comparatively short distance from Baltimore. Union Bridge is on the main line of the Western Maryland railroad, about one and a half hours' ride from this city. The cement plant is located on a spur track about half a mile from the station.

A careful inspection of the grounds shows what seems to be an unlimited supply of both limestone and shale within a stone's throw of each other. A modern hydrated lime plant has already been completed and is working full blast and the steel work of the cement plant is being erected.

The fact that the shale and stone are so close together adds considerable value to the site, and from present indications Great Bridge will become a cement center. The promoters of the enterprise believe they will be able to get the very best grade of white cement from the quarries, as the mineral is some of the best ever seen in this locality. R. M. Soper, manager of the company here, says the plant will be finished by the first of next year and in complete working order. The buildings being erected are concrete and steel and will cover several acres of ground.

Robert S. Green, a well known dealer in building supplies, says the conditions in Baltimore this month are exceptionally good and that there is more work going on than ever before. He is handling considerable quantities of cement and doing a great deal of concrete work.

One of the most important building operations to start in this city this month will be the work on the acid and fertilizer plant of the S. Royster Guano Company. The plant will cover several acres of ground and the main buildings will be reinforced concrete and steel construction.

The International Trust Company, which was recently consolidated with the Baltimore Trust & Guarantee Company into the Baltimore Trust Company, will soon begin the erection of a large addition to the bank building on Baltimore Street. The building will be a fireproof structure of steel and concrete construction.

Myer Rosenbush is having plans made for a \$200,000 fireproof apartment house, to be erected on Eutaw Place. Theodore Wells Pietsch is the architect.

The Knights of Pythias propose to erect a fireproof lodge building to cost about \$200,000.

Baldwin & Pennington, architects, have finished plans for \$10,000 improvements to be added to the Maryland Club building. The construction will be brick, stone and concrete.

The American Can Company will spend about \$50,000 on three new factory buildings to be erected in connection with its plant at Oak and Twenty-fifth Streets. The buildings will be brick and concrete construction.

The city of Baltimore will soon award a contract for the construction of a new pumping station for the high pressure water system, to cost about \$135,000. The building will be built of reinforced concrete.

BUFFALO.

Buffalo, N. Y., May 15.—Buffalo builders have plenty of work on their hands at present. Local architects also report that they are busy this spring. Many of them have been giving attention to the proposed Hutchinson High School, which will be built here at a cost of \$450,000. Robert A. Wallace, an architect in the Builders' Exchange, Buffalo, has prepared plans for the proposed structure. Mr. Wallace's plans were accepted by a commission. He will get about \$17,000 for his plans. Other Buffalo architects who submitted bids were: H. Osgood Holland, Elliott R. Colson, Harry T. Hudson, Green & Wicks and Charles D. Swan. These architects will receive \$250 each for their drawings, as features of them may be included in the final plans for the new school.

The German Rock Asphalt and Cement Co., the Constantine Construction Co., the Gipp Construction Co., H. P. Burgard and B. F. Spire recently submitted paving bids to the Buffalo Common Council.

Reinforced concrete additions are being built to the Pierce Arrow Motor Co.'s plant, Buffalo.

The board of public works of Elmira, N. Y., has adopted a rule that in the construction of cement sidewalks in that city a strict compliance with the provisions of the city specifications be required. Permits will be refused for a period within the discretion of the board to those who neglect or refuse to comply with the rules.

A forty-foot backstop of concrete and armored steel may be built in connection with a state rifle range near Kenmore, a suburb of Buffalo.

It is reported that near Le Roy, N. Y., the General Crushed Stone Co. is making preparations to set off the largest blast that has ever been used in any of the Le Roy quarries. It is figured that 30,000 tons of rock will be loosened by the explosion at the company's plant.

A public dock costing \$100,000, in which much concrete would be used, may be built at Dunkirk, N. Y. The harbor there will also be improved.

The Perry Sand Co., of Buffalo, recently launched a new derrick scow.

Work of repairing the breakwater at Dunkirk, N. Y., wherever the last winter's storms have damaged it, has begun.

The Frontier & Western Railroad Co. wants to build a line in Buffalo. George A. Ricker, engineer for the proposed road, estimated that the line would cost \$1,401,552.

At Macedon, N. Y., on section No. 49 of the New York state barge canal, the Bellevue & Merritt Co., contractors, have started the concrete for the culvert over which the main highway leading to the New York Central Railroad there will be constructed. This work is the beginning of a three years' construction job through that township. Contract No. 49 calls for 64/10 miles of excavation, besides lock No. 30 with its sluice gates, four highway bridges and three culverts.

In Elmira, N. Y., John C. Williamson, contractor, is preparing to lay an immense concrete floor in the Mosart Airdome summer gardens.

It is reported that Jacobs, Davies & Forgie, a New York engineering firm, will prepare a preliminary report on subways in Toronto, Ont. City Engineer Rust, of Toronto, estimates the cost of subways on Yonge Street, from Front Street to a point 500 feet south of St. Clair Avenue, in that city, at \$1,400,000 per mile, or a total of \$4,017,000. The surface lines to be constructed in connection with the subway will cost \$70,000 a mile.

At Albany, N. Y., the bill of Senator Hill, of Buffalo, appropriating \$2,000,000 for the year beginning on October 1st next for the construction and improvement of highways in New York state has been signed by Governor Hughes.

The moving of the Symonds Manufacturing Co. to Lockport, N. Y., has already created a big boom in the building line there. Fully one hundred new homes will be required to house the one hundred skilled mechanics the company will bring there in the fall.

The Buffalo aldermen have granted permission to the Spencer Kellogg Co. to build a concrete base for foundations which shall extend three and a half feet beneath Michigan Street, Buffalo, and shall be three feet below the street surface. The company is erecting a large concrete and steel elevator and must have the extended foundations to support the big building.

Commissioner of Public Works Ward, of Buffalo, on May 17th opened the following bids for paving and repaving in this city: Bryant street, from Main to Delaware avenue, Barber Asphalt Paving

Company, asphalt, \$7,209; Michigan street, German Rock Asphalt and Cement Company, asphalt, \$15,830; Krettnner street, German Rock Asphalt and Cement Company, asphalt, \$10,870; Grey street, Genesee to High street, Henry P. Burgard, asphalt, \$4,950; alley off Cherry street, Barber Asphalt Paving Company, asphalt, \$2,013.

CLEVELAND.

Cleveland, O., May 18.—Building operations in Cleveland this spring are more satisfactory than in several years. With Detroit showing a decrease of 16 per cent for April over a corresponding period last year and Buffalo 10 per cent, Cleveland loomed up with a gain of 29 per cent. Fewer permits have been issued this year than for a similar period during 1909, but the volume is much greater. Building got a much later start this season than last, owing to the long-drawn-out winter. For the first three months the total for this year was \$3,775,048 for 2,062 projects, as against \$3,491,471 for 2,349 permits for last year.

A large number of good sized projects are being evolved, work on which will begin within the next month. The volume of work under way is heavy, especially that in the residence line. More brick, cement and stone houses are being built each year, owing to the increasing cost of lumber and the passing of ordinances extending the fire limits.

One of the largest projects to be formally launched during the past month has been the decision of the Cleveland Athletic Club to build seven stories to the W. M. Brown building on Euclid Avenue, opposite E. 12 Street, which is already five stories, having just been completed to that height. The front of the building is of white enameled terra-cotta, with the framework of steel and reinforced concrete and the three side walls of brick. It will cost the club about \$400,000 to add the seven stories to the structure. J. Milton Dyer, the architect, is completing detailed plans, and contracts will be let within the next month.

Work is progressing rapidly on the sixteen-story addition to the Rockefeller building by the contractors, Thompson & Starrett, of New York. The steel work is up four or five stories and concrete fireproofing work is about to start. The front of the building is to be of a warm colored pressed brick with a white enameled brick for the exterior rear walls. The interior hallways will be finished in white marble. The building, it is expected, will be ready for occupancy about January 1.

A project which will cost \$500,000 was announced during the month by W. S. Lougee, architect, who is preparing plans for a huge grocery warehouse for the William Edwards Co. on W. 9th Street, running through to W. 10th Street and also facing on St. Clair Avenue. The building will be five or six stories above E. 9th Street, and eight stories in the rear, which is a street on a lower level. It will be of brick, reinforced concrete and steel construction.

A big fireproof warehouse will be built for the Fireproof Warehouse Company on Euclid Avenue near the Nickel Plate tracks during the coming summer. It will be of brick and reinforced concrete. Contracts will be let some time within the next month for the work.

The school board during the past month issued bonds to the value of \$500,000 for new buildings to be erected during this year. Of this sum about \$250,000 will be expended on a new West Side Technical high school, while the balance will be used on four or five new grammar schools. Two of these are already under way. Plans for all the school work are prepared by Frank S. Barnum, school architect.

The Lake Shore railroad has several large building operations in Cleveland under way for this summer. A \$100,000 depot at E. 105th Street is to be built as soon as plans for it are fully completed. The railroad is also expending \$75,000 for a new freight house at E. 38th Street and the Lake Shore tracks. Plans are being formulated for an eight or ten-story office building for the Lake Shore system, which has its headquarters in this city. The present building is antiquated and inadequate to the needs of the company, and will be replaced with a modern fireproof structure.

Two contracts, amounting to \$1,800,000, have been taken by J. C. Carland & Co., of Toledo, for the completion of the Belt Line, a project costing \$6,000,000. The work included many thousands of yards of concrete work, including bridges, culverts and retaining walls. It will take two years to complete the work. At the same time the work of separating grades on the Nickel Plate railroad will be proceeded with, as it parallels the Belt Line's right of way. The Nickel Plate is erecting fourteen or fifteen fine concrete bridges across streets which go over its tracks.

Arrangements are being made by the city to construct concrete seats in the big natural stadium in Brookside Park. It is planned to have accommodations at present for 10,000, though eventually it will accommodate 75,000 people. Plans for the foundation work for the seats are now being prepared.

The F. P. Construction Co. has been awarded a contract for the construction of six new buildings for the new sewer pipe company which has been organized by H. A. Robinson, of Akron, and which is building a big plant at Newburg. The largest of the buildings will be 100'x500', six stories high. The company owns one of the finest shale banks in Northern Ohio. The new plant will be of reinforced concrete.

The Pennsylvania Railroad is preparing to proceed this year with the expenditure of \$1,000,000 on new reinforced concrete docks in Cleveland, in the western basin of the harbor. They will be of the heaviest type of construction, and will be used for ore and coal unloading. It will be only the beginning of a great ore transfer point.

The Pittsburgh Coal Company begins work within the next few days on a new concrete dock at Rice Point at an estimated cost of \$1,500,000. The Barnett & Record Co. has the contract for doing all the piling and making concrete piers and cribs. The dock will be 2,200' long and 800' wide.

A new \$1,000,000 interurban depot for the accommodation of the interurban lines operating in and out of Cleveland is planned by a company of merchants who will incorporate a company. It is proposed to erect an eight or ten-story office building, to be used as headquarters for the lines and also as a large train shed.

H. J. Collier is pressing to completion the cement plant of the Lake Shore Portland Cement Co. at Sandusky, near here. Work on the project was suspended a year ago because of lack of funds. It is expected that the new plant will be in working order in the fall.

The Sandusky Portland Cement Company has won its case in which the North American Cement Company sought to have it enjoined from using certain patents in the manufacture of cement. The case was dismissed at Sandusky several days ago. The Sandusky Company claimed that the North American Company was seeking to assimilate it against its will.

The Carey Construction Company, of Cleveland, has been awarded the contract for the construction of the new pumping station at Detroit. The contract amounts to \$136,000, some 6,000 yards of concrete being specified.

The Hunkey Conkey Construction Co. has been given a contract for several reinforced concrete buildings for the Goodrich Rubber Company at Akron, O., and Bolton & Pratt, also of Cleveland, will build a big rubber factory for the Alkali Rubber Co., also of Akron. It includes three warehouses costing \$200,000.

PHILADELPHIA.

Philadelphia, Pa., May 16.—There has been very little change in conditions during the past month, among the local Portland cement manufacturers. The trade is not very active, as the orders are not very large. With practically all the labor troubles now being adjusted, the prospects look more cheerful, and it is likely the business will soon become normal.

James F. Twombly, sales manager for the Copley Portland Cement Company, states that, while their local business has not been very good, they have no complaint, owing to the fact that the orders from up the state have offset the conditions here.

The American Portland Cement Company reports they are of the opinion that the business will improve now, that the season is ripe for the operations to go ahead with greater activity. They have been satisfied all along, and are looking forward to this year being one of their best.

Another addition to the Curtis Publishing Company's new plant, which is now being constructed, will be made. Doyle & Company, who have the contract for the rest of this large structure, have been awarded the new contract, which amounts to \$575,000.

J. E. & A. L. Pennock have begun work on a large reinforced concrete coal pocket, corner Ninth and Thompson streets. Estimated cost, \$68,000.

The Cambrian Limestone Company, Wampum, Pennsylvania, has been incorporated under the Pennsylvania state laws. Capital, \$15,000.

Roydhouse, Arey & Co. have been awarded a contract for ten-story concrete commercial building at the southeast corner of Broad and Spring Garden streets. Estimated cost, \$200,000.

Irwin & Leighton have begun work on the new Columbia station for Philadelphia & Reading Railway Co., which will consist of a one-story, concrete, brick and terra-cotta structure, 87'x150', and will cost about \$182,000.

Stearns & Castor have prepared plans for a three-story concrete structure at Twenty-third and Market Streets, for the Auto Car Company. The building to be used for a garage and to cost \$100,000.

LOUISVILLE.

Louisville, Ky., May 18.—Although the amount of building which is actually under way is smaller than was expected, the building situation in general is satisfactory, and the number of prospects which are in sight is large enough to keep everybody encouraged. There are many large structures in course of erection, and the general complaint is that not enough smaller houses are going up to provide the backbone for the situation. Bad weather all during April held back the work, however, and only lately conditions adjusted themselves to the season. It is believed that from now on the volume of building will be well up to expectations.

April made a comparatively fair showing, 278 permits being issued, and the amount represented being \$269,000. This was a slight falling off compared with the same month of 1909, when the amount of building was \$274,000. A better showing is afforded by a comparison of the first four months of the year, during which the volume of building was \$1,224,000, a gain over that period of 1909 of \$371,000.

Contracts have been let for the Business Woman's Club, and bids are being received for the Tyler Hotel, which seems at last as if it were really going to be built. Plans are being rushed on the new First Christian church, which will be a job worth talking about, and the architects are also busy with the plans for the new First National Bank Building, but this will not be figured on until late in the summer, it is thought. Many apartment houses are going up, and while, as suggested above, the volume of smaller buildings is not as great as it ought to be, there is nevertheless enough work to keep all hands fairly busy.

The cement manufacturers, whose encouraging view of the situation was the feature of last month, continue to regard the situation with optimism, and report both heavy demand and increasing prices. It is understood that an effort will be made to put an increase of five cents a month on cement from now until fall, inasmuch as the business justifies it. Cement is now selling f. o. b. Louisville at \$1.35 a barrel.

Concrete contractors are finding plenty to do, especially in the way of porches, basements and foundations. More than one man expressed the opinion that concrete is going into more work of this kind now than ever before. In fact, the dry, cement floored, concrete walled basement is taking the place of the attic for storage purposes, and the majority of houses are being erected with basements under the entire structures, their owners realizing the advantage of having a large and roomy substructure.

Wall plaster manufacturers, tile manufacturers and brick men all report a good business, with prospects of heavier returns later in the season, while the sand men, though somewhat held back by the bad weather, which delayed the opening of active operations, believe that they will have to work overtime to supply the sand needed in construction work later in the season. The sewer pipe manufacturers are also rushed.

The Kosmos Portland Cement Company reported the situation improving fast, with conditions better than they have been since the boom times of 1907 before the panic. The demand is steady, and though no tremendous contracts have been let, the orders mount into imposing totals. Each month is expected to show an improvement. One of the larger contracts secured during the past few weeks was one with C. T. McCracken & Co., contractors for the Brook Street sewer, who will use 8,000 barrels of Kosmos on that job.

Henry Gray, of J. B. Speed & Co., said that the company secured the contracts for the cement to be used in the Business Woman's Club building and the Sneed power plant. The company also has three contracts for cement used on the sewer work. All of the surplus held by manufacturers has been absorbed by the heavy demand, said Mr. Gray, and there is no cement on the market which is not in process of being used. The plant of the company is running to capacity.

George F. Meldrum, of the Utica Lime & Cement Company, said that though weather conditions have held back the cement and lime business for a while, prospects are now greatly improved, and the outlook is for an unusually busy summer.

"The National Concrete Construction Company," said Webster Gazlay, "is very busy." They are working now on the building of the Business Woman's Club, which will be a reinforced concrete job,

and are completing the building now being erected by the Standard Sanitary Manufacturing Company at its local plant. All of the floors are reinforced for heavy loading. The company is also handling the work on a large church at Richmond, Ind., where the roof and floors will be of reinforced concrete, and is completing work on the building of the Bernheim Distillery Co.

"The advancement in concrete construction," said Mr. Gazlay to the correspondent of ROCK PRODUCTS, "has been so great that we are now able in many instances to underbid wooden construction, so that in addition to being stronger, more lasting and fireproof, concrete is now also more economical. The fact that the cost of steel bars has become less than formerly has helped in this regard, while modern methods and improved machinery have reduced the cost to a large extent. At all events, the difference in cost between the wooden house and that of reinforced concrete is far from what it used to be."

Mr. Gazlay, who was chief engineer for the Board of Water Works at the time the filter plant of the city was completed, took occasion to say that the plant has been a perfect success. It has been in operation for ten months now, and has never failed to perform the work asked of it. The filter is one of the biggest concrete jobs ever put up in Louisville.

Edward I. Streicher, of the National Roofing and Supply Company, said that business had been lighter than usual during the past month, but he attributed this principally to unfavorable weather. He is doing a lot of concrete foundation and basement work. Mr. Streicher has found a good demand for the Cabot Waterproof Cement Stains, for which he has the general agency here, as well as for the deadening quilt manufactured by the company, which is Samuel Cabot, Inc., of Boston. The waterproof stains especially have been successful here.

The Central Concrete Construction Company reported business fine, and said that they are heels over head in work. Most of the jobs they are busy on have already been reported, but in addition there are now some good prospects in the market. The company makes its concrete blocks with the Hayden automatic block machine, which it has found to be satisfactory in all respects.

The American Concrete Construction Company has landed several city contracts for cement sidewalks, and these are being laid down by the thousands of yards. In addition the company has the contract for the concrete foundation of the Rugby distillery. Prospects with this concern are excellent.

The Culley Cement Block Company is running along in good shape, and has just delivered fifteen carloads of blocks for the new buildings of the monastery at Gethsemani, in Nelson county. Mr. Culley said that the company manufactures the blocks and does not contract for installing them. He is personally the local representative of the Perfection machine, which the company uses, and says that it is one of the best on the market. It is manufactured by the Enterprise Foundry Co., of Rochester, N. Y. He is also agent for the New State and Giant mixers, which have proved popular in this territory.

The Kentucky Wall Plaster Company is remodeling its building, and has secured some new effects with tinted wall plaster finished rough, and put on with a brush. In addition to this, the exterior is being finished in stucco, and plaster is being used instead of cement. Mr. Campbell said that he believed the plaster would withstand the weather as well as cement, and he is trying it out in this manner. The offices will make a handsome appearance when completed. Business is unusually good.

The Ohio River Sand Company is rapidly completing its new pressed brick office building. It is two stories high, and will be heated with hot water. The building will be one of the handsomest structures of the kind north of Main Street. John M. Settle, head of the concern, said that business is only fair, on account of bad weather, and that building hasn't developed as it should have done. The work on the sewers is about winding up now, he said.

The P. Bannon Sewer Pipe Company is as busy as possible, and its plant is working to the limit. Most of the material it is getting out is in connection with contracts with the city. In addition to this, business all over the state is opening up well, while in the South some big sewerage systems which have been under way are being completed, and this gives a chance for pipe to be used.

A movement has been set on foot for the erection of an auditorium to cost \$250,000. All of the local commercial organizations are interested, and committees are conferring relative to financing the plan. There is a good prospect that the amount will be raised.

The Masons of Kentucky are making plans for the erection of a state hospital in Louisville. Funds

are now being raised. Alfred Struck, the well known building contractor, is a member of the committee.

The Falls City Construction Company, of this city, has been awarded the contract for the new building of the City National Bank, of Paducah. It has let the contract for the brick, exterior marble and stone work to George Weikel, of Paducah, and the structural iron work to Schrieber & Sons, of Cincinnati.

L. Keller & Sons, of this city, have filed plans for a three-story apartment house which will be erected at Second and Breckenridge streets at an estimated cost of \$55,000.

A bond issue of \$75,000 will be voted on at the November election by the people of Shelbyville, Ky., and if the bond issue carries a new courthouse will be erected.

Tobacco warehouses, which were formerly constructed with little care as to the fire hazard, are now being built of fireproof materials. The new loose leaf warehouse at Glasgow, Ky., will be erected of brick, steel and reinforced concrete. It is 150x200 feet.

Charles C. Cooke, manager of the Bowling Green, Ky., Concrete Company, died in that city after a brief illness. He was one of the best known contractors in that part of the state.

A concrete bridge built by the Illinois Central over Little Cypress creek, twenty-five miles south of Paducah, collapsed recently, but later reports indicate that the cause of the failure of the bridge was due to imperfect building rather than to the form of construction.

George W. Seymour, of Louisville, has been awarded a contract for the construction of some concrete work in Lincoln Square, Hodgenville. They will build cement walks and steps leading up to the statue of Lincoln which has been erected there.

T. J. O'Connell, of Boston, Mass., who is the head of a construction company which has several contracts on the local sewers, was seriously injured when his automobile ran into a sand-pile. Both of his legs were broken and his death was feared, but it is now believed that he will recover.

Plans are on foot to remove the Baptist Theological Seminary, of which E. Y. Mullins is president, from Fifth and Broadway, which is located near the heart of the city, into some more retired spot. If this plan is put into execution new buildings costing close to half a million dollars will be erected.

Brinton B. Davis, the well-known Louisville architect, was reelected president of the Commercial Club at the annual meeting held recently. He served out an unexpired term last year, and his administration was successful.

Several new features are contained in the municipal stables, which will be built by the Frey Planing Mill after plans drawn by Thomas & Bohne. The building will be of brick and reinforced concrete, and will be as nearly fireproof as possible. The second floor, where the feedstuffs will be kept, will be provided with fire doors, which will close automatically in case of fire, thus protecting the animals below from the conflagration.

The Audubon Construction Company has filed articles of incorporation fixing its capital stock at \$100,000. G. R. Hunt, J. A. Bridgeford and J. A. Steinau are the incorporators.

SPRINGFIELD AND CENTRAL ILLINOIS.

Springfield, Ill., May 21.—Building permits in Springfield for the fiscal year will aggregate nearly \$3,000,000. Most of the large contracts are finished, however, with the exception of the New Leland hotel. The report of the state free employment bureau show that 90 per cent of those securing places in Springfield find them with the building industries as unskilled laborers, so the smaller contractors and sidewalk men are flourishing.

A. D. Thompson, of Peoria, secured the \$102,000 paving contract for South Washington Street in that city. The contract calls for an eight-inch concrete foundation, Stretcher cube paving brick and filler of asphaltic pitch.

Careful estimates of building in Peoria show that \$3,500,000 worth of work will be done aside from the sums expended by railroads upon their terminals.

Poston blocks from Attien, Ind., will be used in paving Broadway in Normal. The contract will require 160 cars.

A Builders' exchange has been launched in Peoria with the following officers: President, Fred Meintz; first vice-president, Andrew O'Neill; second vice-president, George Rothan; secretary, George Flinn; treasurer, Robert Strehlow; directors, W. M. Allen, J. J. T. McDonald, Fred Feger, J. F. Johnson, H. B. McCadden, Hugo Lucas, George Todhunter, Charles McElwee, Frank Hasbrouck, Charles Lewis, Michael Langdon and Dan O'Connor. The purpose of the club is to promote the building interests of the city.

The Herrick Concrete Mold Company has been incorporated at Carlinville, with a capital of \$2,500, to manufacture and deal in concrete molds and fixtures, etc. The incorporators are H. J. Herrick, H. B. Herrick and A. L. Herrick.

E. R. Harding & Co., of Racine, Wis., were awarded a \$53,338 sewer contract at Canton.

The Beardstown Concrete Construction Company received the contract for a big lot of sidewalk work in that city.

ST. LOUIS.

St. Louis, May 18.—The unsettled condition of the labor question, involving as it did the possibility of higher cost in case of new buildings, held up some construction, but matters are gradually improving, since agreements have been reached, first with journeymen painters and lately with the cement workers. Out-of-town demand for all kinds of building material has been excellent, especially for cement. As the season advances, and as more stable weather conditions are near at hand, the outlook improves. Prices for material are strong, and, in case of cement, higher. The improvements contemplated in St. Louis and in East St. Louis by the respective city governments will involve the expenditure of large sums. The steam railroads, street railroads and the McKinley system are spending a great deal of money on trackage and buildings, while the Gas Light Company is also doing a good deal in the extension of its facilities into the new districts, which are rapidly building up.

Secretary-Treasurer Healey, of the Glencoe Lime & Cement Company, says that for the past month something has been wrong with the weather, so far as building operations are concerned, though doubtless the rain has done good in the farming sections. For this reason the demand for lime has ruled somewhat uneven. It would appear, however, that neither he nor Col. Cobb, whom the **Rock Products** man met on the elevator, appear to have anything to trouble them, though the Colonel sometimes avers that newspaper men take up too much of his time.

Sales Manager Steeg, of the Acme Cement Plaster Company, states that if one will from month to month review the weather chart, he can come pretty near to judging whether or no the demand for plaster has been heavy or light. Every one knows that the hard wall plaster job lies dormant in unfavorable weather, and when you multiply this by the thousand it rounds up to a very convincing proposition. It seems the company is making an earnest effort to exploit the maxim "that manufacturers should not sell contractors." They go so far as to advise retailers to boycott manufacturers who pass them up. The company takes the ground that the retailer is a useful and worthy member of the commercial world. He carries a stock of materials, and even those contractors who give him the go-by, if in a hurry, or only want a moderate quantity, will make a convenience of him by buying some building material. "Live and let live" is an old and good motto—it ought to be nailed up in every office.

"There is," said A. H. Craney, sales manager of the cement department of the Union Sand & Materials Company, "a heavy demand for Portland cement, and we are certainly getting our full share of it. Notwithstanding the advance in price this spring, trade is strong and urgent." The company had been discommoded somewhat in their sand and gravel department, owing to damage by the ice movement last winter, yet they have managed to handle the big demand when it started up this season.

The Board of Public Improvements will let a contract June 21 for the construction of the new Kings-highway viaduct over the railroad tracks, estimated to cost about \$400,000. The present wooden structure will be wrecked at once, and work will begin on the new bridge as soon as the contract is let.

Statistics show that St. Louis factories produce more wire cloth, mainly for screens, in the course of a year than those of any city west of New York. It is a kindred line to the wire rope business, and is an important interest here, the capital invested being \$350,000, and the value of total output is \$650,000.

The Columbia Post & Manufacturing Co., of St. Louis, has been incorporated with a capital stock, fully paid, of \$5,000. The incorporators, Raymond Randolph, of Mobile, H. H. Schroeder and E. J. Krause. The company will manufacture concrete and other material to be used in marking lines for railroad right of ways, etc.

The Modern Cement Products Company, of St. Louis, has been incorporated. Capital stock, fully paid, \$15,000. Incorporators: John Nyflot, Henry Otto, Charles Nelson, John Nilson and James H.

Leathers. The firm will manufacture concrete building material.

The Dubois Re-enforced Concrete Construction Company, of St. Joseph, Mo., has been incorporated. Capital stock, \$2,000. Incorporators, Charles R. Dubois, Eugene Silverman and Eliot Spaulding.

The Pacific Sand & Gravel Co., of Pacific, Mo., has been incorporated. Capital stock, \$35,000. Incorporators, L. C. and M. M. Dietzke and Joseph Freund.

The Arthur B. Paule Fuel & Material Co., of St. Louis, has been incorporated. Capital stock, fully paid, \$15,000. Incorporators, Arthur B. Paule, William O. Schmidt and Elizabeth C. Paule. The company will deal in coal, coke, wood, stone, sand, etc.

The Roodhouse Clay Products Co., Roodhouse, Ill., has been incorporated. Capital stock, \$150,000. Incorporators, Charles W. Payne, John R. McConathy and Henry C. Worcester.

The James Davis Contracting Co., of St. Louis, has been incorporated. Capital stock, fully paid, \$75,000. Incorporators, James, Mary and Maggie Davis. It will do a general contracting business.

The Millam Concrete Fence Post Co., of St. Louis, has been incorporated. Capital stock, \$25,000. Incorporators, J. W. Millam, Geo. M. Jennings, C. A. Jennings and others.

The Lion Construction Co., of St. Louis, has been incorporated. Capital stock, \$6,000. Incorporators, A. E. Kammerer, T. C. Zinck, M. E. Lupe and others.

KANSAS CITY.

Kansas City, Mo., May 18.—Building operations continue to be active in this city, but they are not up to the point reached in Kansas City, Kan., a year ago. The fact that buildings on that side of the line must pay more taxes and rent for less is probably the reason that investors are slow about building on their property over there. This little difference in the rent the same building will command in the different cities seems to be enough to keep builders busy all the time here and make things slow over there, and it is well for builders and building material people to take note of the fact that investors seem to have reached the point where it is necessary for them to figure very closely to see where they will get a profit out of their investment in buildings. If a building in Kansas City, Kan., is not profitable at the present cost of building and is still showing a profit in this city it is evident that the margin is small, and it will not take much of an advance either in the cost of material or the cost of labor to make a big dropping off in building operations, for the minute investors can see no profit in erecting a flat building, for instance, and they have been the backbone of the building business here for several years, there will be no demand for flat buildings and those now employed in that class of work will have to turn their attention to other operations and the result will be a general cutting down in the demand for both labor and material. This is considered the one great danger point to a rapid growth in this city, both in the way of population and house building. If prices do not reach such a high level that investors will find it unprofitable there seems to be plenty of money in sight to continue building, and rents are about as high as they can be forced, so any further advances are likely to mean a curtailment in consumption; in other words, the goose which lays the golden egg may be killed.

According to reports from the surrounding country the handlers of building material are doing a good business locally, but there is little demand from the country, as farmers are too busy with their crops to be trying anything in the building line. Some dealers in cement and crushed rock report that they sold a good deal of that material a little while ago to farmers for building walks, etc., and that there is a prospect of a considerable trade developing in that direction, as one farm fixed up with good walks makes all the neighbors feel like doing the same. Large building operations continue to be the rule in Oklahoma, where there is a great deal of public work on hand in the way of court houses, school buildings, etc., and the larger cities of the new state are building large office buildings and business structures. In Kansas and Missouri cities there is much less of this kind of work, as these states were already better supplied in this direction, so building is largely confined to residences and store buildings.

In Kansas City all skilled mechanics are busy and contractors have about all the work they can take care of. The demand for all kinds of building material is strong; but not so strong but what the building material people are well able to take care of it. Just at the present time there is more trouble from the lack of teams than anything else. Much demurrage is being paid on cars because the teams available

cannot unload them fast enough, and there is every indication that this condition will grow worse as the season advances, for the reason that the working capacity of each team will decrease as the warmer weather comes. Those in a position to know are stating that four or five hundred more teams could find regular employment here until the first of the year, and they state that there is no indication that any of these teams will make their appearance, although the prices paid for hauling are high enough to enable them to make good wages. The extremely high price of feed has caused teamsters to reduce their stock to a point where it can be kept busy the year around. Some are talking of automobile trucks for making their deliveries, and while this, of course, means a big investment and a dead investment part of the year, there is the advantage that a truck not in use during the winter only costs the interest and storage, while a team costs both these expenses and feed in addition.

The Wyandotte County Commissioners have let the contract for a concrete culvert to be built on the Reidy Road at a cost of \$2,500. F. M. Torson has the contract.

The C. L. Gray Construction Co., of St. Louis, has been awarded the contract to construct a reinforced warehouse in this city for the Bemis Brothers Bag Co. The Kahn system of reinforcing will be installed by Laidlow & Baum, of this city.

The Horton Concrete Co. has been awarded the contract for all the concrete work on the Unity Building, 917 Tracy Avenue, and the Kahn system of reinforcing will be used.

Laidlow & Baum report a good business and have contracts on hand at this time for the postoffice building in Oklahoma City, Okla., and the Child Saving Institute in Omaha, Neb.

Work on the railroad improvements in the way of a new union depot and terminals seems to be making little headway. The railroads were making all kinds of promises about getting to work immediately, as the money was waiting, but there seems to be no rush now since they have got all the concessions they wanted out of the city. The work began at the time stated, a section gang, or its equivalent, pottering around a little, and that is about the pace kept up since that time.

At the annual meeting of the United Kansas Portland Cement Co., which was held in Iola, Kan., the following officers were elected: President, George E. Nicholson, of Kansas City; vice-president, A. B. Cockerill, of Nevada, Mo.; second vice-president and assistant secretary, F. C. Nicholson, Iola, Kan.; secretary, W. S. Goodwin; treasurer, L. L. Northrup; assistant treasurer, W. F. Dewey; directors, George E. Nicholson; T. W. Vandiver, Nevada, Mo.; A. B. Cockerill, L. H. Callaway, Nevada, Mo.; W. K. Caffee, Carthage, Mo.; William Lanyon, St. Louis; O. B. Wilson, Kansas City; M. L. Alden, Kansas City, Kan.; A. H. Campbell, John Goshorn, L. L. Northrup, Leigh Hunt, F. C. Nicholson, and J. N. Roberts, Lawrence, Kan.

Walter S. Halliwell has sold all his interest in the Halliwell Cement Co., of this city, and will retire from active business. This business was established in 1879, and has been growing all the time. The business will be continued under the same name with the following officers: A. J. Middleton, president; F. L. Middleton, vice-president, and Mark Mitchell, treasurer and general manager.

According to the report of Henry McGrew, receiver for the Bonner Portland Cement Co.'s plant in Bonner Springs, Kan., the plant produced 25,893 barrels of cement in the month of April, at a cost of 65 cents per barrel, and sold it at 91 cents per barrel, giving a net income of \$6,752.63. The receiver is still in charge, and the plant is making such a good showing under the present management that it seems certain that it will not be long before the court will turn it over to the stockholders.

The Portland cement dealers are reporting a steady demand for their product, larger than they can supply, and there is an inclination to take care of the business that comes from the regular dealers with as little delay as possible, and to let the large special orders alone. This may hold back a few of the big jobs in sight, at the same time it is probable that enough cement can be picked up to take care of them, but there is not the scramble to get hold of this business that was apparent a year ago, even at the present profitable prices. It seems evident that the production in this territory will not be any greater than the demand will take care of at present prices, and there will not be any large increase in the production for some time to come, so the future of the cement industry in this section seems to be good for those already manufacturing. There is also tendency toward taking care of the regular dealer, the cement manufacturers seeming to have decided that it is the regular dealer they depend upon in good times and bad, and that he is the best medium through which to distribute the product.

It is reported that the demand for lime has been a little slack for the past couple of weeks, but there is a feeling that the business for the balance of this season will show a good margin of increase over the same period of last year. There is always a slackening up in the lime business in the summer months, but the increase in the sale of hydrated lime has been such that it is expected this will make a difference in the showing throughout the year. More retailers are including hydrated lime in their cars, and those who ordered sparingly six months ago are now placing larger orders for hydrated than for the lump lime. They are gradually educating the users to the proper way of handling hydrated, and it seems that once the user gets the hang of it he is a regular customer, for the putty works so much smoother than the putty made of lump lime, when it is prepared properly.

Andrew Lundteigen has accepted the position of managing engineer for the Portland cement plant of the Ash Grove Lime & Portland Cement Co., this being a new position created for him. Mr. Lundteigen comes to this point from Union City, Mich., and is well known.

C. H. Hogan, formerly with the Chicago & Great Western Railroad, has accepted the position of traffic manager for the Lumbermen's Portland Cement Co.

The Altoona Portland Cement Co. reports considerable progress in the way of house building for its employees in Altoona, and also some fine gas strikes by the drilling force. Only a short time ago they brought in a well that produced five million feet per day, and now they have another well, not over a thousand feet from the former, which is producing fifteen million feet per day. All this gas is in addition to that needed for the plant, and is being sold to other manufacturing concerns of the neighborhood.

The Lumbermen's Portland Cement Co. states that everything now indicates that the plant at Carlyle, Kan., and also the plant at Cape Girardeau, Mo., will both be in operation in July. This company is at present handling the product of the plant of the Bonner Portland Cement Co. at Bonner Springs, Kan.

THE TWIN CITIES.

Minneapolis, Minn., May 18.—The building rush seems to continue unabated, in spite of the fact that the volume in previous months has been well ahead of previous records. A number of large projects are in view, but have not been taken up actively, which promise to keep the remaining months going at as rapid a rate as have the four and a half months now past.

It is noticeable that the construction in the Twin Cities includes more reinforced concrete construction, relatively, than ever. Of the larger buildings, there are but few which are of steel frame construction without more or less reinforced concrete work. The bulk of the buildings are of reinforced concrete, or of the cheaper design—mill construction. Inasmuch as there has been such a determined attack upon reinforced concrete construction this fact is significant.

Labor troubles have not developed to any extent this spring, although some crafts have asked for and secured a raise in their wages. But the threat of a suspension of operations has proved to be unfounded, and the spring moved along without an interruption.

A. H. Allen has been made manager of the roofing department of the H. W. Johns-Manville Co., in Minneapolis. He has been with the roofing factory of the company in Milwaukee.

The William B. Hough Co., of Chicago, has opened a Northwestern branch office at 902 Lumber Exchange, Minneapolis. J. E. McAfee, from the Chicago office, is in charge of the new branch office. The company has been represented in the field heretofore, but finds its business growing to such an extent that a branch office is needed.

Felix and Dennis Trainor, of the firm of Trainor Bros., contractors, of Minneapolis, announce their dissolution of partnership.

The use of concrete paving is developing through the Northwest this season to a marked extent. Several cities in Iowa have sent members of the council and other city officials to various points to inspect concrete paving, and the reports have usually been quite favorable. The cheapness of concrete paving, as compared with the other materials, is a big inducement.

The new freight rates on commodity goods as announced by the Chicago-Twin Cities lines brings increases upon brick and cement and other building materials. The increase ranges from 15 to 25 per cent. The Minneapolis Traffic Association has promptly filed a protest against the increase, and will seek to have the inter-state commission forbid it.

Building permits for April in Minneapolis amounted to \$2,333,610, against \$1,401,955 for the

same month of 1909. The total for four months of this year is \$4,748,955.

The Washed Sand & Gravel Co., of Minneapolis, has formally incorporated its business, with a capital of \$50,000. The incorporators are Francis M. Henry, William Henry and S. R. Child.

C. A. Carlson, of Grand Rapids, Minn., was in the Twin Cities last week, buying an outfit for concrete blocks, cement bricks, and a concrete mixer. He will get under way as soon as possible.

S. T. Salter, of Bird Island, Minn., has just bought a concrete block outfit in Minneapolis.

The family hotel building which Theodore F. Curtis, of Minneapolis, and Frank Mackey, of London, expect to erect in Minneapolis, has been refigured. It is expected to erect a twelve-story building, if the cost is confined to \$1,200,000.

The Endicott Arcade, Fourth and Robert Streets, St. Paul, is to have a new arcade extended through to Fifth Street, with the ultimate intention of raising it to six stories, to be of reinforced concrete construction. Cost about \$350,000.

Craig, Lunde & Craig, of Minneapolis, will erect a new building for their department store business on Central Avenue, East Side, to be of reinforced concrete construction, brick exterior walls, five stories and basement. Cost about \$80,000.

The University of Minnesota will erect on the campus in southeast Minneapolis two brick buildings for the college of engineering, to cost about \$250,000.

The Anheuser-Busch Brewing Association, of St. Louis, proposes to erect a new distributing warehouse in Minneapolis, at Tenth Avenue South and Fourth Street, to cost about \$100,000.

THE WEST COAST.

San Francisco, May 17.—There has been a little delay in the expected revival of building activities in San Francisco, but business in all lines is now picking up in good shape, many contracts for first-class buildings being either just let or up for figuring. Business during the first three months of the year was retarded by financial conditions, as well as the renewal of the permit under which the temporary structures within the fire limits are allowed to stand, but there is still a great need of certain classes of buildings, and work is expected to progress actively through the summer and fall.

The building records of outside cities in California show a remarkable increase. The total valuation of permits for San Francisco last month was \$2,320,826, quite an improvement over the month before, while Los Angeles established a new record, with a total of \$3,360,577. Oakland also set a new record, the valuation for April being \$1,621,423. These figures show a surprisingly rapid development in Los Angeles, and the outlook there is excellent.

The great movement of cement for development projects in the interior is now fully under way, and the quantity required will probably be greater than last summer. Some of the large electric power projects which have taken great quantities of concrete in the last few years are nearing completion, but new irrigation schemes are being started all the time. In this connection cement pipe is playing an important part, many large orders being placed by large land owners within the last few months. Cement pipe is especially valuable in the South, where the scarcity of water renders earth ditches impracticable in many places. In San Francisco new sewer jobs, mostly concrete, are coming up all the time, and some new contracts will be let before long for additional sections of the sea wall.

The Aitken Reinforced Concrete Company, of Los Angeles, has taken a contract for a six-story building at Berkeley, Cal.

The Black Marble Lime Co. has been incorporated at Enterprise, Ore., and will install kilns to produce about 20,000 barrels of lime a year.

The highway commissions of the different cities along the Coast are laying plans for a great deal of street improvement this summer and are asking for appropriations toward this end. The board of public works of San Francisco has submitted a budget to the supervisor for the ensuing year in which an appropriation of \$911,000 is asked for improving the streets of the city. The city of Seattle has already voted appropriations and is now asking for bids on the paving of a number of main thoroughfares. The city of Spokane, Wash., is just about to award a \$512,000 asphalt paving contract to one of the bidders who, in case of award, has announced his intention of erecting a paving plant in that city. In addition to the concrete and asphalt work on the streets these cities will lay out a large number of streets in crushed rock as a good supplement to the work along this line done on the county roads by the county road commissioners.

The market on cement, which was reported a little

weak a month ago, has come up strong and is holding firm at the prices per barrel which has existed for the past few months. There was some talk of price cutting in the local market, but this matter has been dropped entirely, as all the plants are running to the full capacity, thereby obviating the necessity of such action.

During the last few years there has been a decided change in the Coast cement market. Before the fire San Francisco, as well as other places on the Coast, used a great deal of foreign cement. Foreign shipments after the fire gradually dropped off until now most of the cement used on the Coast is of local manufacture. In 1906 over 900,000 barrels of foreign cement were imported to San Francisco. In 1909 this shipment fell off to 66,000 barrels, and it is said that in the next year or two local cement will more than ever take the place of the foreign product.

Representatives of cement interests in Los Angeles, Cal., have assured Secretary Frank Wiggins, of the Chamber of Commerce, that they will guarantee approximately half of the tonnage of 6,000 tons of south-bound freight necessary to secure the T. F. Ryan line of steamships for Los Angeles harbor as its northern terminal. This steamship line is to run between the port of Los Angeles and a number of Mexican ports, and means much to all the business interests of Los Angeles as well as to the cement dealers. This country south of the border along the Coast is rich in agricultural resources and the cement interests have seen it to their advantage to help in the development of that country.

The Cowell Portland Cement Co. has moved its San Francisco offices from Spear and Market Streets into the building recently completed at Main and Market Streets. The plant is working full blast to supply the local demand and to take care of the shipping orders which have been coming in at a great rate during the month.

The Holmes Lime Co. reports an increasing demand for lime since the beginning of the building season in the city. The country trade in lime for both building and general uses, including fertilizing and tree spraying, where hydrated lime is used, is noticeably on the increase.

The Mount Diablo Concrete Construction Co. has been incorporated in San Francisco with a capital stock of \$10,000, by W. E. Charbonneau, F. E. McCoy, E. Nelson and R. Stallman.

The Mutual Engineering Co., of San Francisco, is dismantling its lime plant near Sonoma, Cal., and will move it to another location. The plant was installed after the fire, but has been idle most of the time, and it has been figured out by the officers of the company that the modern equipment of the plant can be used to good advantage if moved to another district.

The Art Stone Casting Co. has been incorporated in San Francisco with a capital stock of \$75,000 by C. Dondoro, W. DeMott and E. L. Chloupek.

The Channel City Rock Crushing Co. has been organized in Santa Barbara, Cal., to furnish crushed rock for road building. The capital stock of the new company is \$20,000 and G. H. Gray is president. Other stockholders are H. D. Ellis, W. A. Smith, S. C. Mason and J. G. Barton. The company plans to acquire possession of a quarry near Santa Barbara, which is said to contain a superior grade of road-building rock.

The contract for the new Santa Fe rock crushing plant on Kings river, near Fresno, Cal., has been let to the Sharp-Hauser Construction Co. The crusher will have a daily capacity of 2,000 cubic yards of crushed rock, which will be used for ballasting the railroad company's roadbed for a great distance on both sides of Fresno. Work on the rock crushing plant will be commenced in about two weeks, when the spur track leading to the place is expected to be finished.

The San Joaquin Rock Co. has been incorporated in Stockton, Cal., with a capital stock of \$100,000, by R. L. Kincaid, S. D. Herbert and M. T. Kelly.

The Yosemite Stone Co., of Merced, Cal., has a force of fifteen men at work on the Merced river, below Exchequer, leveling, grading and clearing the site for its monster rock-crusher and other machinery, which is now en route there.

A number of men of Jackson, Cal., are organizing a company with a capital stock of \$75,000 to develop a lime deposit near Mt. Echo. The project is being headed by W. H. Greenhalgh, A. Ginochio, G. W. Brown, John Strohm, Jake Newman and R. Webb. The company has an option on a 300-acre tract of fine lime rock, out of which it expects to develop 200 tons of lime a day.

The Escondido Crushed Rock Co. has been incorporated in San Diego, Cal., with a capital stock of \$10,000 by N. K. Carpenter, T. C. Onstine and W. E. Alexander, all of Escondido, Cal.

The Columbia Contract Company is erecting a dock on the water front in Portland, Ore., part of which will be used by the Oregon Paving Company, a new

company which intends to enter the Portland field for street paving contracts, and the remainder will be used for bunkers for the storing of crushed rock, gravel and sand.

The Balfour-Guthrie interests and cement deposit owners in the Mt. Baker foothills are planning to erect a factory on the water front at Bellingham, Wash.

The Washington Cement Co., of which A. F. Coats is the agent in Seattle, has arranged to expend \$300,000 to enlarge its plant to a capacity of 2,000 barrels a day.

MEMPHIS AND THE SOUTHWEST.

Memphis, Tenn., May 19.—Building is pressing forward here at the same good rate reported in the former numbers of this paper. The larger work, excepting the West Tennessee Normal College, and the preliminary work for the Union Depot, is reaching a degree nearing completion, but municipal street work and residence construction seems to be but fairly begun.

J. A. Denie & Sons Company report a very good trade on lime. So far as cement is concerned they note advances, the latter having amounted up until the present, to about twenty cents per barrel more than a few months ago.

The Kavanaugh Sand Company reports good trade on sand. They are receiving shipments by the river.

Mr. Troy, of the Consolidated Gravel Company, Byrd Building, who only lately perfected organization, says: "We have much work in prospect."

At the letting of street contracts for the city of Memphis, the paving for eighteen streets under the foot assessment plan, was awarded to H. P. Streicher & Co., of Toledo, Ohio. The cost of paving will be approximately \$350,000. Their bid was \$1.22 per yard. The Good Roads Construction Company bid was from \$1.16 to \$1.19 per yard; Roach & Mannigan offered bids ranging from \$1.25 to \$1.30. Contracts were let to Jesse Franklin, F. T. Harvey and Patterson & Davis, to build sewers on several streets in the southern part of the city. Mayor Ed Crump made a motion that T. A. Garvin's contract to lay 4,300 lineal feet of sewer in North McClain Avenue, be confirmed.

The Pouncey Paving Construction Company was awarded the contract for laying sewers in Klondike, price \$6,071.50.

The DeSoto Gravel Company has recently opened an office at 130 Randolph Building. They are working gravel pits near Olive Branch, Miss., and have been shipping into Shelby County so far without rejection, the gravel entering into the county work.

The Morgan Engineering Company, located in the Goodwin Institute, has been organized by Arthur E. Morgan and L. L. Hidinger, for the practice of hydraulic and drainage engineering, with especial reference to reclamation of swamp lands. Mr. Morgan leaves the position of supervising engineer of the U. S. drainage investigations. Prior to his government service he was in private practice in Minnesota. Mr. Hidinger has also been engaged in government work. This firm states to the Rock Products correspondent that they desire locations of fine crushed stone and sand for use in Arkansas, at a point west of Memphis.

At Maben, Miss., the city contract for 4,800 square feet of paving has been awarded to the Columbus Concrete and Gravel Company, of Columbus, Miss.

The contract for building a new sewerage system at Stuttgart, Ark., has been let to the Kress Construction Company, of Oklahoma City, on a bid of \$17,130.

The Chickasha Cement Burial Vault Company has been organized at Chickasha, Okla., at \$10,000 capital stock, by J. A. Rose, F. M. Frey and E. S. Dougan.

JACKSON.

Jackson, Tenn., May 18.—Ainsworth & Sedgwick have contracts on several West Tennessee paving jobs.

Wallace & Mills, 40 Royal Street, are putting on the market cement tombstones of many patterns, and curbing, both for cemetery and outside use, with good success. Mr. Mills states that they have been carrying on this business for about twelve months, and find the demand for the product among the class of people who can not afford marble monuments. The hydraulic pressure system is used. Aside from local work, they have done some work at Hollywood, Tenn., in the last few weeks.

Dyersburg, Tenn., May 15.—The Wilson Concrete Company is located near the depot, and have several nice jobs on residences in progress at this time.

CHICAGO

Chicago, May 21.—A further advance in prices is indicative of the healthy condition of the cement market this month. Shipments were exceedingly heavy for this time of the year and the demand, it is said, was greater than the production. To supply this increasing and, in fact, extraordinary demand this year, mills have been obliged to dip into their reserve winter stocks, which are at present much lower than they have been for several years. Taking into consideration that the capacity of mills has also been greatly increased during the past eight months and yet the production falling short of the demand, the movement to higher price levels is a natural consequence and will necessarily continue until these conditions change.

In the loop district caissons are sunk for foundations for immense structures this month, greater in number than last year in May, and buildings without number in process of erection and in contemplation in all parts of the city, which will all materialize before the fall season, indicate clearly that a new record will be established for Chicago in building operations. Furthermore, much work and material will be expended on public improvements during the summer and fall months. Dealers in builders' supplies have enjoyed a good month's business, and facing these bright conditions the coming summer season, feel jubilant and confident that continued busy times are in store for them.

Sand and gravel men found the demand a little slow this month, and prices a shade weaker than in April, but still better than the corresponding month last year. This was caused by bad weather conditions, and as soon as the skies clear both demand and prices are expected to become more active and higher than during the extraordinarily busy months of March and April.

The general feeling in the trade is one of optimism and cheerfulness.

George W. DeSmet, distributor of Vulcanite Portland cement, is settled in his new and inviting suite of offices on the third floor of the Chamber of Commerce Building. These offices have 125 more square feet of room than his old quarters on the fourth floor. In speaking of conditions in the cement trade he said, "The demand throughout the month of May has been large and more than satisfactory. It must be remembered that we had some bad, rainy weather, which halted building operations to some extent, but had no appreciable effect on the business. Prices are advancing and indications point to further advances in the near future. Conditions have not been as bright as at present for several years."

"Conditions could not be better in the cement trade, and if the demand were greater we could not handle the business," said J. U. C. McDaniel, traffic manager of the Chicago Portland Cement Company. "Shipments are very heavy and greater than the production, which forces us to fall back on our winter stock on hand, which is decreasing rapidly. Conditions earlier in the year had a tendency to increase prices of cement, which will continue to get better. This seems to be the general opinion."

"Latest quotations showing an advance in prices is indicative of the healthy condition of the market," said John G. Evans, of the Atlas Portland Cement Company. "The demand has undoubtedly been equal if not in excess of the supply, with indications that it will materially increase during the active building season. There has been a lull the last two weeks on account of bad weather, which was a severe test of the stability of the market, but this temporary falling off in the demand for cement has given no evidence of any price cutting by manufacturer or dealer. A week's sunshine will bring back the heavy demand with a rush. Prospects for an exceptional year look very encouraging."

"There has been a little falling off in this demand for cement the last two weeks on account of the bad weather, but on the whole trade this month has been very good," said Edward L. Cox, general sales agent of the German-American Cement Works. "Shipments have been exceedingly heavy. Prices have been advancing and the general impression prevails that they will continue to take further jumps upward. This seems very probable with present existing conditions."

"It seems probable that a greater quantity of cement will be used this year than ever before," said Gold Williams, Chicago representative of the Marquette Cement Manufacturing Company. "We have made heavy shipments this month and done a

good business, in spite of bad weather conditions, which hampered to some extent building operations in the last week or two. Prices have advanced in the last four weeks and continue to show a strong upward tendency. The outlook for a splendid year's business is very good."

"While the demand for cement this year has been exceptionally large, it is continuing to grow rapidly," said D. Richter, manager of the western branch of the Alpha Portland Cement Company. "There has been a little falling off in this demand the last ten days, due solely to the rain checking building operations. Stocks in mills generally are said to be low and prices are stiff with indications of further upward movements." Mr. Richter is distributing this month a handsome illustrated book, published by his company, which treats of the proper method of mixing and using concrete for construction work, specially written for the layman. The work is much appreciated by the company's patrons.

"I am glad to have a cheerful message to give," said B. F. Affleck, general sales manager of the Universal Portland Cement Company. "Shipments are exceedingly heavy. The demand, exceptionally large as it has been up to the present time this year, gives promise of increasing steadily and prices are advancing. It seems more than probable that the upward movement in prices will not be checked this month. Everything looks bright and conditions in the trade are healthy."

"Business was more than brisk with me the last four months, showing no let-up in demand, shipments and inquiries," said E. J. Winslow, of the Hydrolithic Cement Company. "Conditions in the trade are healthy."

"Building operations are more extensive, we find, this year than last, and an exceptional demand for lime has kept us busy this month," said T. P. Henderson, secretary and treasurer of the Chicago Union Lime Works Company. "We expect, because we believe good reasons exist, that this year will be a very busy one to the end."

D. Mitchell, of the Artesian Stone & Lime Company, said: "Business has been active this month and very satisfactory. We are preparing to take care of the demand for crushed stone, which everything indicates will be larger than that of several past years. We have all the business we can handle at present and it looks to us as if this condition would continue all year."

The Chicago Builders' Specialty Company has moved its offices from the Chamber of Commerce to the Old Colony building, on the fourth floor. George C. March, its president, said: "We have had a good demand and made large sales this month of our concrete mixing machinery. This will prove a busy year."

"Business has not been quite as rushing this month as last," said C. B. Sheffer, president of the Garden City Sand Company. "Exceptionally fine weather conditions the previous month crowded work into it never known here before and rainy weather this month halted work on building operations. This accounts fully for the falling off in business, which, however, will pick up prodigiously the moment we again have sunshine. There is more work ahead than there has been in former years at this time, and everything looks well for great activity in building circles. The demand for our Stone-Kote, for finishing houses, is increasing rapidly, and we find this increase is fully 90 per cent greater so far this year than in 1909. Everything in Chicago points to great activity in building operations and conditions in general are very satisfactory."

"Much building is noticed in the southern part of the city, especially east of State Street, and much concrete is used in the foundations of these buildings," said J. B. Tuthill, of the Tuthill Building Material Company. "A number of rainy days the last three weeks, when we could not turn a wheel, made business seem a little slow, but May has been a good month just the same. There is no halting in building operations, and the demand for material will be active and strong this season. Prices of all building material are stiff, and conditions and prospects for good business were never better."

Walter L. Woods, president of the Standard Material Company, said: "We have had a busy time of it this month, although there was a slight let up to business compared to April. But when you lose three to five days in the month because of rain we must expect it. There are a great many buildings going up in this territory which require much material, keeping our teams busy hauling it to the jobs. We are facing a busy season; there is little cutting in prices, and we have no complaints." The Standard Material Company has recently distributed among its patrons a memorandum book of 200 pages, elegantly bound in morocco leather. It is a

useful souvenir, much appreciated by contractors.

"Business is going along smoothly, the same as last month," said H. O. Heitman, president of the Union Coal, Lime & Cement Company, at Ashland Avenue and Fifty-ninth Street. "There is a great deal of building around here and it looks as if it would continue till late in the fall. Our teams have been busy all month delivering material to jobs. Everything looks all right. We have had a few rainy days this month, which put a damper on business for those days, but otherwise this has been a pretty good month. There is not much price cutting done, and we are fairly well satisfied with the outlook."

"We have been much busier this month than in April and have bent all our energies not to fall down on deliveries of material to jobs in this territory," said W. N. Carter, of the Chicago Contractors' Supply Company, at Loomis and 58th Streets. "Building operations have been decidedly more active in this territory than last year. Concrete foundations and concrete construction is general in this district, which has added largely to the demand made on us for cement. Conditions are healthy in the trade and everybody feels good."

"You see we have only just fairly got into the harness and with the demands for material coming in so much faster than we expected we are rushed from early morning till late," said E. Withal, secretary of the Lake Building Material Company. "This month has been a bigger one than April and I expect each succeeding month will be larger than the preceding one to the end of the year. That is the way business looks to us. With building operations in all parts of the city more extensive than has been known for years. With increased public improvements and good prices for building material, there is only one way to feel—and that is mighty good."

"Our business has been very good this month and notwithstanding bad weather conditions there has been no let up from the month previous," said M. A. Staley, of the M. A. Staley Company. "There are more buildings going up in the northwestern part of the city than there have been for years. A large percentage of these buildings are erected by owners of lots for homes. There is much business in sight and there is every reason to believe that the summer and fall months will develop great activity and make the builders' supplies dealer hustle. Collections have been a trifle backward this month, but we account for this, owing to rainy weather holding work back. Business this year looks good and is all right."

J. M. Bower, superintendent of the yard of the Waukesha Lime and Stone Company, at Devon Avenue and Sheridan Road, said: "There has been no falling off in business during the month of May. It has been very good, except for the number of rainy days when it was not practical to deliver material to the jobs. The company's yard at Central Park Avenue and Bloomingdale Road has found conditions the same as we have here. We look upon prospects for a good summer and fall as more than good."

Otto Frerk said: "Our teams have been rushed this month delivering material to jobs within a radius of two miles of Belmont and Western Avenues. There has been no slowing up of business from the months of March and April, which were extraordinary. The building season will remain active in this territory, from all appearances, till late in the fall. Conditions are good, prices are good and prospects are all that can be wished for." The death of Henry Frerk last week will not affect the business in any detail, as Alfred and Otto Frerk, his sons, have practically run the business for several years, and will continue to do so in the future.

N. J. Druecker, of N. J. Druecker & Co., said: "There has been no change in the conditions of the trade from those existing the month previous. To be sure we have had a number of rainy days this month, in which we have not done any business, but these things we must expect and must not say because of those conditions business is on the wane. Within a radius of several miles of Artesian and Western Avenues more buildings are being put up than last year, and there is more work in sight than last year this time, which makes the outlook for summer and fall very bright."

J. J. Croake, of the J. J. Croake Co., reported an increasingly active demand for their concrete building blocks for basements in frame houses, many of these being remodeled this year. He said: "Sanitary conditions forbid that we put these houses on cedar posts, in consequence either our concrete blocks are used or concrete foundations go in. Business has been excellent this month, and if all signs do not fail, we will have a great year, knocking past records stiller than the comet has our astronomers' calculations."

"Business is keeping up in great shape, although I can not say that I have been rushed this month," said Jas. E. Lill, who handles a complete line of builders' supplies in his up-to-date yard on Bryn Mawr Avenue in Edgewater. This territory has done some great building this spring, and it is not half way through yet. The present lull in business merely gives us a breathing spell and prepares us for the rush in early fall, to which conditions now point. Collections are good and prices for all building material advancing."

"Conditions in the trade are in fine shape and business has kept up briskly this month without a halt," said A. L. Hallemann, secretary of the Templeton Lime Company, which has one of the largest builders' supplies yards at Homan and Grand Avenues. "Building operations in this territory are far more extensive than last year. Homes, flat buildings and factories are being built. Among the larger improvements may be mentioned the enlargement of the piano factory of H. P. Nelson Company, corner of Kedzie and Chicago Avenues. The demand for all kinds of building material is decidedly larger than last year, and prices are better, indicating great activity in building circles. Things look good to everybody in the trade."

"There has been no change in business or in conditions of the building trade since last month," said Morris Koch, secretary and treasurer of the Marnane-Farley Company, which supplies building material to the territory within a radius of three miles of West 40th Avenue and Kinzie Street. Business looks brighter than ever. Building operations in this section are in full blast. It is said that the syndicate which put up 100 cottages in this district early in the spring, has sold the last one of them, and is going to put up another 100 cottages, commencing work about June 1. Bids for these contracts, it is understood, have been sent in."

F. B. Meisinger, of Meisinger & Co., 5812 Wentworth Avenue, said: "We have been doing a rushing business all year, and this month we were busier than ever. The demand for our concrete garbage and ash can is rapidly increasing, and dealers in builders' supplies are commencing to put them in stock, as they have many calls for them. Orders turned over to us from dealers not handling them have nearly swamped us."

Building operations in South Chicago are on a much more extensive scale this year than ever in the past, was reported by T. M. Tobin, of the T. M. Tobin Brothers Company, one of the largest builders' supplies firms there, whose yards are located at 9326 to 9354 South Chicago Avenue. "The Illinois Steel and Iroquois Iron Company will do much building this summer and fall on their made land. In previous years building ended the latter part of May and commenced again in September," he continued, "but this year there will be no let-up to building operations during the summer months and fall. We were very busy last month, keeping our seven teams delivering building material to jobs early and late, besides hiring three extra teams. We have sold much larger quantities of Atlas cement than last year at this time. We are the agents for this cement in this section of the city. Prices are fair and prospects for a rushing business till late in the fall are exceedingly good."

Charles P. Thompson, president of the Calumet Coal and Teaming Company, said: "All our three yards have been very busy delivering building material in this territory this spring, much more so than last year. Everything looks brighter and buildings are going up everywhere, especially in the Windsor Park and South Shore districts, which accounts for our 75th Street and Bennett Avenue yard being crowded with business, more than our 95th Street and Exchange Avenue yard. These buildings are erected largely by owners of lots, for homes. Our business has grown rapidly in the last twelve months. We have been obliged to install a switchboard in the main office connecting the three yards, have doubled our office force and built last fall a large warehouse holding ten carloads, where we store Universal cement, and also built an airtight lime house. Our equipment of yards for handling and shipping building material meets all the requirements of the trade in this territory now. We own 15 teams and have kept 15 extra teams busy all year. We laid two miles of street paving last year and are laying that much pavement now, with the season's work of paving only begun. Building operations and public improvements in this section of the city are being rushed this year, and we feel assured of very busy times."

F. M. Pierce, secretary of the Circuit Supply Company at South Chicago, said: "Our business last month, in fact all spring, has been considerably better than last year. There is considerable building going on all around here, which will continue, I believe, all summer without any let-up. Of all the

structures erected 98 per cent have concrete foundations put in. Many public improvements are being made by the city and prosperous times are felt by every one. We own seven teams and hire four to deliver building material to jobs which are, on an average, about a mile distant from our yard. Conditions are excellent and prospects bright."

"There is much building going on in the district of 42nd Avenue and West Taylor Street, say within a radius of two miles," said George W. Parks, manager of the Chicago Clay Products Company, "and we have been very busy all month. Concrete foundations have been put in in all buildings in the northern section of this district, while in the southern section one and one-half feet of concrete and rubble stone foundations on top of that are built. We own three and hire two extra teams to do our hauling." John F. Kryda, superintendent of the yard, said: "Most of the cement we handle we sell to sewer contractors. Our principal business is sewer pipe."

R. A. Browning, of Carpenter & Browning, said: "We make a specialty of sewer pipe, but also handle Chicago A. A. Portland cement. Our yard was established nine years ago and we use six teams to do our hauling. Business was first rate with us this month, and prospects for selling larger quantities of sewer pipe this year, than we have for a long time in the past, are exceedingly good."

The F. Schultz Lime Company two months ago succeeded F. Schultz, one of the prominent builders' supply dealers on the West Side. E. E. Wetzhold, superintendent of the yard, said: "We have done a bigger business in May than the same month last year. There is an active demand for all building material, and it looks like busy times for our four teams hauling it to jobs, all summer and fall."

"There is the same brisk demand for sand and gravel this month there was in April," reported C. H. Brand, president of the Atwood-Davis Sand Company. "We have been busy with the exception of the days when it rained. Bad weather halted operations some on sidewalks, buildings and street work, but not enough to noticeably slacken the demand or materially weaken prices. Prices are firm and better than last year. We are satisfied with conditions and prospects."

"We have had a good month, although rainy weather halted building operations a little and caused a little lowering in prices for sand and gravel, ruling in April," said P. M. Richardson, president of the P. M. Richardson Sand Company. "There is much work ahead of us during summer and fall, and with clear skies the demand promises to be very heavy, and prices decidedly better than last year."

"May has been about as good a month as we had last year," said C. H. Stebbins, of the Lake Shore Sand Company. "We found a little falling off in business from April, but this was due to bad weather conditions. There is much more work in sight for the coming season than we have seen in years, and the demand for sand and gravel will be very heavy as soon as the weather clears. Prices are firm and conditions in the trade could hardly be better."

"In the building lines everything indicates that the record of last year will be broken," said P. M. Lewis, secretary of the American Sand and Gravel Company. "Within a stone's throw of the Chamber of Commerce building I can count off-hand six large jobs. Public improvements will be on a much greater scale this year, and consequently immense quantities of sand will be required to prosecute this work. The demand fell off a little this month by reason of bad weather, but will be very heavy immediately the weather clears. Prices are good and everything points to much work ahead."

MONTGOMERY.

Montgomery, Ala., May 19.—The contractors and supply firms here seem to be busy. The Rock Products man saw the big electric sign, "Opportunity," loom up over this city as every visitor sees it on approaching the ancient Confederate capital, a city now teeming with industry.

The Montgomery Lime and Cement Company reports trade just about on an average for this season. The firm is furnishing the cement on a dozen street contracts. It is supplying the court house plaster for the remodeled building, also the cement on a new cathedral, on Griles stables and has the contract for same on the Woman's Methodist college in prospect.

The Vesuvius Lumber Company is handling a line of supplies and is busy.

The Hobbie Grocery Company also carries building supplies in Montgomery, and reports a good trade.

The Southern Mosaic Tile Company reports the finishing of the tile work on the San Carlos Hotel

at Pensacola, Fla. This firm is quartered in the Chamber of Commerce Building.

The Jones Moulded Stone Company here is making cement blocks and ornamental stone and doing a good business.

MOBILE.

Mobile, Ala., May 19.—Mobile has been doing some important concrete work this season, both on streets, buildings and the Tidewater dock. Contractors generally are finding favorable conditions.

The Mobile Portland Cement & Coal Co., 808 Van Antwerp Building, is completing new and large facilities for handling its business in this city. A cement mill is being erected at St. Stephen, Ala., and a New York office opened at 50 Church Street.

H. M. Price & Co., 20-24 South Water Street, are handling builders' supplies and have facilities for a fine trade to gulf ports as well as locally.

St. John & Co., building supply dealers, were visited. They report a good trade situation with prices not changed recently.

The Southern Fuel & Material Co., foot of Palmetto, are handling large quantities of gravel and sand this season.

The National Mosaic Tile Co. are operating a large tile works and have elegant display rooms in the down town district.

The Martin-Gaston Sales Company are handling some building materials.

The New Orleans Roofing & Metal Co.'s branch here is handling every class of roofing.

NASHVILLE AND THE SOUTHEAST.

Nashville, Tenn., May 19.—The building supply firms here have had an active month and the outlook for June is quite good. The finishing touches are being put on the Hermitage Hotel; a number of residences are going up in the residence district, and the Y. M. C. A. building will be on the way in the near future.

Josephman Lightman is operating a crushed stone and ballast business in North Nashville. At the Hermitage Coal & Coke Company, which he owns, considerable concrete work has been done in the last few weeks.

The West Tennessee Gravel Company has been incorporated with capital stock of \$20,000, to do a general mining business. John H. DeWitt, John T. Banks, W. C. Slaton, James Graham and H. M. Clunan are the incorporators.

The Foy-Proctor Company, Stahlman Building, have closed a deal for the construction of a street car barn at Athens, Ga., the same to be of concrete, and of similar design to the Nashville barns, though smaller, the cost to be \$15,000. The same company has several other out-of-town contracts for concrete work.

V. M. Lewis is having erected on the Harding Road, a handsome brick home to cost \$10,000. Asmus & Norton are the architects. Fulcher Brick Company are doing the brick work; Cooper & Ferguson the plastering; Hoover & Company, cement work; Agerton & Robinson the tile work; Ohlman & Company the cut stone work.

NEWBERN.

Newbern, Tenn., May 16.—This little city on the Illinois Central Railroad, has seen considerable cement work and street work recently. Some construction work, too, is in progress for the summer months.

W. H. Blane, general superintendent of the Patterson and Blane Construction Company, was seen by the Rock Products correspondent, and stated that concrete block buildings were still in order here. This month the firm has been awarded the contract for a concrete block building for the Bank of Ridgely, at Ridgely, Tenn. This will have tile floor and walls. The firm has completed the Cumberland Presbyterian church here, and is now doing some concrete sidewalk work. The firm has been launched here only five months. R. E. Patterson, general manager, was for some years in business at Centerville, Tenn., and Mr. Blane, for about thirteen years, operated in Illinois.

In the line of builders' supplies it handles Koranos cement, U. S. gypsum plaster and Red Neck lime. The company uses the U. S. standard block machine.

U. B. Troy, of the Consolidated Gravel Company, Memphis, Tenn., recently completed a nice job of graveling the streets here. Mr. Troy has executed street contracts at Huntington, Lexington and many points in West Tennessee.

The Hall Construction Company is another concrete block firm, with its office at Newbern, but at this time is engaged chiefly on some construction work at Dyersburg, Tenn.

EVANSTON AND WINNETKA.

Chicago, May 21.—A few miles north of Chicago the two suburban cities of Evanston and Winnetka, while not experiencing a boom this spring in building operations, are growing at a healthy pace. So rapidly are buildings going up along streets in these towns, that in a few years corporate limits, to the eye, will have vanished. Willmette, a residence district between Evanston and Winnetka, it is said, has built on an average of one house a day for several years and is more than making good this average so far this year. The dealers in builders' supplies in these towns are live and wide awake men who hustle and get all the business they can take care of. This has been their record this spring and they seem to feel confident that this condition will continue summer and fall.

Seven years ago the Peabody Coal Company took over the business and yard of B. B. Noyes & Co., dealers in builders' supplies. The yard is located on Church Street and the Chicago & Northwestern Railway. It is in the most central part of Evanston. The company also operates yards at North and South Evanston and Niles Center. All three yards are doing a large business in builders' supplies. In these yards Universal Portland cement is the principal brand handled, and Chicago A. A. lime from the Western Lime & Cement Co.; plasters from the United States Gypsum and Grand Rapids Plaster companies, with a full and complete line of sewer pipe, flue lining, fire clay, wall coping, sand and gravel, etc.

Many improvements have been made lately in the Church Street yard. Among them a fireproof corrugated iron warehouse, having a storage capacity of about 1,000 barrels of cement and plaster; a switch track from the Chicago & Northwestern Railway running into the yard, which accommodates 28 freight cars and a block distant a switch track from the Chicago, Milwaukee & St. Paul Railway. Many other improvements are contemplated which will make this one of the modern, up to date yards in Illinois. A central barn in the yard will be erected, fireproof and with modern equipment for stabling their horses used in the three yards. H. A. Apps, assistant manager of the Peabody Coal Company at Evanston, said: "Business in all our yards here has been brisk and everything looks exceedingly bright for a stiff trade during the summer months and late into the fall. Prices are good and conditions satisfactory in every way."

Evanston will shortly have one more large and up-to-date building material yard. Jas. D. Wigginton, Jr., it is understood, has recently closed negotiations for the site of this new yard covering several acres at Simpson Street and the Chicago & Northwestern Railroad. A switch track from this road runs 350 feet along the west side of the yard. Plans have been perfected for erecting a fireproof warehouse for storing cement and plaster, to be built early this summer alongside the track; a handsome office building fronting Simpson Street and a modern equipped brick barn for stabling the 24 horses used for hauling material. Sheds, driveways and other improvements in the yard will be completed by fall. The old yard run by Mr. Wigginton for years at Greenleaf Street and Oak Avenue will be used principally for storage purposes. He handles a complete line of builders' supplies including Universal, Atlas and Chicago A. A. Portland cements; plasters from the United States Gypsum and Grand Rapids Plaster companies; fire brick, fire clay, flue lining, building brick, angle irons, ash-pit doors, dampers, etc. He also owns a large gravel pit at Emerson Street and Rich Avenue, from which he has supplied excellent gravel to neighboring localities for the past four years.

H. Diestel, manager for Mr. Wigginton, said: "All these contemplated changes and improvements mean extension of business and caring for it. Our business this year has been remarkably good, better with each succeeding month, and the outlook is exceedingly cheerful."

M. K. Myer started in business twenty-five years ago in Winnetka. It is the only building material yard in the town. A switch track from the Chicago & Northwestern Railroad runs alongside of the yard. Its warehouse has a storage capacity of about 500 barrels of Universal and Lehigh Portland cements. Lime in bulk from the Wisconsin Lime & Cement Company; sewer pipe from the N. A. Williams Company of Chicago, and fire brick, fire clay, flue lining, wall coping, sand and gravel are handled in large quantities. M. Goebel, superintendent of this yard, said, "Business has been pretty fair, averaging about the same as last year. The outlook for good business is very encouraging."

The South Dakota Concrete Construction Co., Rapid City, S. D., has the contract for building the Dakota Power Mill at Rapid City.

VIGOROUS PROTEST

By Shippers of the Country Against Proposed Increase in Freight Rates Results in Meeting Which Appoints a Conference Committee to Act.

Vigorous protests by the shippers of the United States culminated in a meeting at Chicago to more fully express dissatisfaction with proposed increased freight rates by the railroads. The meeting was held at the Congress Hotel on May 17, and was attended by representatives of the large mercantile and manufacturing institutions as well as various state and national associations of trade and industry.

As is well known, some months ago the railroads issued statements to the effect that revenue must be increased and freight rates would be raised on June 1. The tariffs issued since show increase of from 20 per cent to 25 per cent in rates. No concerted action was taken which was effective until the Illinois Manufacturers' Association took steps to call a meeting for the purpose of determining the railroads' rights to increase freight rates in such a manner. The result of the meeting is a challenge for the railroad to show why rates should be increased and to prove before the Interstate Commerce Commission, acting as an arbitration committee, the necessity for their action.

Having expressed the conviction that the railroads will be unable to maintain their position and justify the horizontal increases in the class rates and in the commodity rates in eastern territory the mass meeting which was called by the Illinois Manufacturers' Association perfected a permanent organization with a guaranteed fund of more than \$50,000 to pay for the battle to be waged against what was termed the injustice and greed of the railroads.

The convention was attended by over 400 representatives of more than 200 of the largest commercial organizations, business corporations and individual business firms in the territory east of the Rocky Mountains and by a few representatives of large commercial organizations west of there.

Although temperate in character, the convention went on record in no uncertain terms and served notice on the railroads that it must be "arbitrate or fight." If arbitration be chosen the shippers declare they will meet the railroads half way, but if it be fight, then it will be a fight to the bitter end, with no quarter asked and with the shadow of dire legislative and political action directed at the railroads all along the line.

Here is what the shippers decided to do:

Offer the railroads arbitration through the Interstate Commerce Commission upon the question of whether or not they are entitled to increase freight rates in order to increase their revenues.

The arbitration must be coupled with the agreement that, pending it, the present rates shall pertain, all increases being held in abeyance.

Should conciliatory measures fail, the shippers are pledged to take immediate action either before the Interstate Commerce Commission or the federal courts.

Should the commission be appealed to that body will be asked to declare the rates when put into effect to be unreasonable and unjust.

Should the courts be appealed to, they will be asked to issue an injunction restraining the railroads from putting the proposed increases in rates into effect until the commission shall have the opportunity to examine and pronounce upon their reasonableness.

Organize a permanent body to carry on the fight, if a fight should become necessary.

Create a conference committee of fifteen members, whose duty it shall be to have charge of the campaign and place the arbitration plan before the railroads.

Tax every member of every organization present 50 cents with a view to raising a fund to begin and carry on the battle, the initial fund being about \$50,000.

The meeting was called to order by W. H. Burn, vice president of the Illinois Manufacturers' Association, who immediately appointed a committee on resolutions, which was as follows: C. S. Swarts, chairman; G. Roy Hall, John C. Seales, S. C. Mead, Fred W. Boltz, John V. Farwell, F. H. Armstrong, Walter B. Moore, A. R. Erbi, William C. Thorne, Ira S. Bassett, Frank E. Jones, H. C. Barlow.

The committee retired and brought in the following concise resolutions before the morning session was completed:

Whereas, Officials of the principal railroads of the United States have contended that increased cost of operation in recent years justifies and necessitates an increase in freight rates; and

Whereas, An analysis of the statistics filed by the railroads and compiled by the Interstate Commerce Commission, notwithstanding such increased cost of operation, indicates the net income per mile of road for 1907 has increased 345 per cent over 1897, which years were taken by the chairman of the trunk line roads in his argument for an advance in rates, the statements filed by the carriers with the Interstate Commerce Commission for the first seven months of the year ending June 30, 1910, indicate even more favorable net income than for the year ending June 30, 1907, the banner year for the carriers; and

Whereas, The railroads in official classification territory have announced they will make effective at an early date a general advance in all class and commodity rates; and

Whereas, Most of the principal trunk lines in said territory show a substantial increase in net operating income for the first seven months of the fiscal year ending June 30, 1910, over a corresponding period of 1909 and 1907, thus indicating a healthy growth of business and relatively cheaper operating cost throughout official classification territory; and

Whereas, In the judgment of this convention a careful analysis of the statements filed with the Interstate Commerce Commission by the carriers shows more reason for a reduction than for an advance in rates in said territory; therefore, be it

Resolved, That this convention demands that the carriers in official classification territory suspend the proposed advance in class and commodity rates and submit the question to the Interstate Commerce Commission for arbitration to determine from the facts whether any general advance in rates is reasonable or necessary; and be it further

Resolved, That pending and during such arbitration we oppose the general advance in rates as proposed by the lines in said territory; and be it further

Resolved, That a committee of fifteen be appointed by the chair to carry into effect this plan for arbitration.

Falling in such conciliatory methods, said committee is empowered to take such action as will, in its judgment, prevent the proposed general advance in freight rates.

The conference was called to order at 10:30 o'clock, and immediately a motion was entertained to effect a permanent organization. It was carried with a shout. Permanent officers were elected as follows:

President—John E. Wilder, of Wilder & Co., Chicago.

Vice President—R. F. Spencer of the St. Louis Shoe Manufacturers' and Jobbers' Association.

Secretary—E. F. Williamson, of the Cincinnati Receivers' and Shippers' Association.

President Wilder took the chair, made the opening address, and then gave way to W. H. Burn, vice president of the Illinois Manufacturers' Association, and William Duff Haynie, counsel for the association, and addresses outlining the purpose of the conference and the impending contest.

In explanation of the purpose of the meeting, Mr. Burn outlined the problems confronting the shippers, in part as follows:

Two years ago some of the organizations who are represented here today assembled at this hotel for the purpose of opposing an advance of 10 per cent in the rates on freight in official classification territory. The mere fact that the gathering was called created a great flurry among our railroad friends, and they sent up the cry, "They're rocking the boat!" Conditions then were different than now. Becoming convinced of the determination of the shippers to prevent the rates from going into effect, they sent word to your conference committee that it was not necessary to call the committees together, as there was no intention to advance rates, and if it was so determined to take any action in this direction, your committee would be notified.

The excuse given for the proposed advance in the part of the shippers, to prevent the proposed rates going into effect. As to what legal remedy we have, the lawyers will have to guide us, but I want to assure you gentlemen, that there is no result-getter like public opinion. If the people of this country rise up and show their determination to stop the railroads from adding any more tax to the things that are used in ordinary life and in conducting business, you will not have to appeal to the courts, or the Interstate Commerce Commission, or Congress, or any state legislative body.

The excuse given for the proposed advance is that the rate is that the operating expense has become so great that it is likely to overtake the operating revenue. This, gentlemen, we believe to be untrue. The annual reports of the railroads and the reports made to the Interstate Commerce Commission do not warrant any such deduction. We know that the railroads are not paying as much for supplies, for cars, and for a great many things they use as they did three and four years ago, and the only item in their expense account which has materially increased has been labor, and it is infinitely small compared with the increase they have enjoyed in gross earnings, or as it is now called, "operating revenue."

The men in this conference represent both large and small interests. You are conservative, you are honest and you are fair, and you want to do what is right, and I believe that there are brains enough in this room to formulate a plan that will secure the cooperation that is necessary to defeat the unfair advantage carriers are attempting to take by raising rates. Everyone knows that the producer of goods cannot add any more to the burdens of the consumer. The situation has reached its climax. We are against a stone wall. We cannot be forced to go farther. The only thing to do, if the railroads will not listen to reason, is to fight.

Haynie on Rate Principles.

The committee on organization, headed by P. M. Hanson, of St. Louis, was appointed, and during its deliberations Mr. Haynie read a paper outlining the economic and legal aspects of the shippers' position, in which he declared that a reduction was more warranted than an increase.

All the information which the railroads allow the people to have points to the necessity for a reduction instead of an increase in rates, said Mr. Haynie. You simply ask that the proposed advance shall be proved to be necessary.

In seeking a remedy the shipper is at a disadvantage. Nevertheless, you have two remedies. One is a complaint that the rate is unreasonable, to be filed with the Interstate Commerce Commission after the rate has gone into effect. Then, in the course of two or three years, you will get to a point where the commission is ready to decide the case. And if it decides in your favor you then will have to face another two or three years' contest in the courts.

That is a burdensome proceeding. The other course is also burdensome, but requires less time. Steps to secure an injunction will at least insure a hearing be-

fore the rates go into effect. Bonds which have to be given by those applying for an injunction, and \$250,000 would not be an uncommon bond in a case of this kind. But if there is no other means of redress, then there must be combined action and combined responsibility to take this step.

Following the reading of the prearranged addresses the meeting was thrown open to a general discussion. James S. Manahan, representing the Minnesota Shippers' Association, urged publicity as a remedy against corporate evils. "The railroads are not so much in fear of the commission's orders or injunctions as they are of the public opinion of the United States," he said. "We should arouse public protest against the injustice and criminality of the proposed action."

Congressman James McLachlan, of California, urged construction of waterways, "as a more potent regulator of railway rates than all the laws ever passed."

George H. Pitkin, of Pitkin & Brooks, Chicago, thought the railroads had advanced rates sufficiently by abolishing rebates, and caused a gasp of surprise by his frank discussion of the subject.

"I suppose every man in this room got rebates," he said. "I know that we did, all we could get. I don't remember the exact amount, but it was a large sum. Since then it seems to me that the railroads must have recouped themselves and made a long advance toward paying for the extra cost of rails, supplies and wages simply by eliminating the rebate item. I don't believe they need a dollar of advance."

An attack on the plans of the carriers through prosecutions under the Sherman anti-trust law was advocated by F. B. James, of Cincinnati.

Mr. Haynie has suggested two means of procedure, he said; a complaint to the commission or an application for an injunction. It seems to me that if these remedies do not bring about the desired result, there are more effective ways provided. The Sherman law says that any conspiracy in restraint of trade is punishable by a fine. Is it an accident that these railroads have all fixed upon the same rate of proposed increase? Have they not entered into a conspiracy in violation of the law? The attorney general should look into this to see if it is not more than a mere coincidence. Why not lodge a complaint with the department of justice and ask an injunction to prevent the carrying out of the agreement? These things are called "gentlemen's agreements" when the railroads are concerned, but if the manufacturers combine to fix prices they are subject to fine and imprisonment.

The meeting resulted in the selection of a Conference Committee to carry on the work as outlined at the meeting. The chairman, John Wilder, in accordance with the resolutions, appointed the following as a Conference Committee to carry into effect the plans of arbitration: R. F. Spencer, St. Louis, chairman; A. C. Bannister, Moline, Ill.; George W. Sheldon, Chicago; S. C. Meade, New York; P. M. Hanson, St. Louis; Homer A. Stillwell, Chicago; La Verne W. Noyes, Chicago; Ohio C. Barber, Tiffin, O.; Andrew W. Wilson, New York; John Kirby, Jr., Dayton, O.; J. M. Belleville, Pittsburgh; M. N. Newmark, Los Angeles; Van Wallin, Grand Rapids, Mich.; W. B. Conkey, Hammond, Ind.; N. A. Kennedy, Kansas City, Mo.

To defray the expenses of the committee a resolution was passed calling upon the Board of Directors of the associations represented, to assess each member of the other associations fifty cents. The same request will be made to all commercial associations in the country, and it is expected to have a fund of \$50,000 to carry on the work.

E. J. McVann, secretary of the Omaha Commercial Club, announced that a meeting of the Missouri river manufacturers interested, including the various boards of Omaha, Kansas City, St. Joseph and Sioux City, will be held May 24 at Omaha. This meeting will consider some plan of opposition to the increased rates, and he invited everyone interested to be present.

The Conference Committee held a meeting on May 18th to formulate a plan of action.

In reply to the telegram which the shippers sent the president of the Pennsylvania, the committee received the following wire:

Your telegram of last evening received. The statement made by me in October, 1909, to which you refer was in answer to a communication addressed by me from Cincinnati and signed by a number of the trades associations represented at your meeting and correctly presented the situation existing at the time. Since then conditions have materially changed in respect to the further increase in wages and materials and consequent cost of operation. Our company has recently had the question under consideration and it is quite probable an advance in some rates will be made.

Doubt of Increase Removed.

The message was signed by Mr. McCrea and left no doubt in the minds of the members of the committee that the eastern roads have fully made up their minds to increase rates.

With respect to the offer of a conference which will be made to every railroad president in the territory under discussion, which is east of the Mississippi river to the seaboard and north of the Ohio river, no information has been received. Secretary E. E. Williamson, of the Receivers' and

Shippers' Association, of Cincinnati, and John E. Wilder, of Chicago, who presided at the mass meeting on Tuesday, will write letters to the railroad presidents offering to meet them in conference, the shippers to be represented by the conference committee and the railroads to be represented by any committee they may select.

The shippers want it distinctly understood that they are not pleading for a conference and are not, in fact, even asking for a conference. They are simply offering to meet the railroads in conference provided the latter desires one. The committee elected David R. Forgan, president of the National City Bank, to be treasurer of the conference committee.

Railroads Make No Reply.

Although no official responses have been received, it is thought that the railroad presidents will be loth to enter into conference regarding increased rates.

That the increase will affect the building material industry is undoubted. The increased cost of materials for manufacture as well as the rates for shipment will have a tendency towards increasing the price, unless they are too great for the manufacturers to absorb the differential. An increase may be expected at any time. No concerted action has been taken by the manufacturers or dealers in builders' supplies to counteract the increase in rates, but individuals have taken part in the shippers' conferences.

ANNUAL MEETING OF A. S. T. M.

The annual meeting of the American Society for Testing Materials, will be held at Atlantic City, N. J., June 28-29-30, July 1 and 2.

The American Society of Mechanical Engineers will hold its spring meeting at Atlantic City, N. J., May 31, June 1, 2 and 3. Calvin W. Rice, of New York, N. Y., is the secretary.

The Universal Cement Block Company, a firm of Georgetown residents, have established a factory at Rosslyn, Va., for the manufacture of cement blocks, sills and lintels.

The MacArthur Concrete Pile & Foundation Company has been incorporated at New York City, with a capital stock of \$25,000, by Arthur F. MacArthur, John R. MacArthur and Hunley Abbott, all of New York City.

The Coalinga Cement Products Company has been incorporated at Coalinga, Cal., with a capital stock of \$20,000, by Charles E. Crozier, A. J. Thedieck and W. D. Holt, all of Coalinga.

The Modern Cement Products Company has been incorporated at St. Louis, Mo., with a capital stock of \$15,000, by John Nyfot, Henry Otto and Charles Nelson.

The Pneumatic Concrete Conveyor Company has been incorporated at New York City, with a capital stock of \$10,000. Manufacture and deal in machinery for handling concrete and other plastic materials by air pressure, etc. Incorporators, J. William Buzzell, 507 Parke Avenue, East Orange, N. Y.; Wm. H. Larkin, Jr., 372 Bement Avenue, West New Brighton, N. Y., and Lewis T. Knox, 208 Fifth Avenue, New York City.

At a meeting of the stockholders of the Bath Portland Cement Company, held recently at Allentown, Pa., the proposition to merge with the Nazareth Portland Cement Company was not approved.

The Twin City Brick and Tile Company has been incorporated at Tacoma, Wash., with a capital stock of \$10,000, by W. R. Amon, L. E. Johnson and F. E. Coulson.

The Peck-Mohlman Company has been incorporated at New York City, with a capital stock of \$5,000, by Theodore G. Peck, West Haverstraw, N. Y.; Gel. A. Mohlman, 35 West 12th street, New York City, and Donald J. Demarest, 599 6th street, Brooklyn.

The American Fire Clay Company has been incorporated at Newark, N. J., with a capital stock of \$250,000, by Terrence C. Curtin, 70 West End avenue, Newark, and others.

The Central Brick and Tile Company has changed its principal place of business from Kalo, Ia., to Fort Dodge, and increased its capital stock from \$10,000 to \$50,000.

The Winnebago (Minn.) Plane and Tile Company's plant was totally destroyed by fire recently at a loss of \$35,000.



CLAY MINING AND STORAGE SYSTEM.

The Barr Clay Company, of Streator, Ill., one of the largest producers of paving brick in this country, has recently installed machinery, making it possible to have at all times, a reserve quantity of ground shale for brick making.

This company excavates its shale from its own pit by means of a seventy-five ton and a sixty-five ton steam shovel. From the pit it is hauled in three-yard cars to the plant, a quarter of a mile distant. These cars dump onto a platform under which is a belt conveyor which conveys the material to the dry pans. In leaving the pans it passes through a $\frac{1}{2}$ " mesh pan grate and is elevated and screened. The over size is returned to the pans, and the fines discharged into an "S-A" bucket elevator fitted with 14"x7" malleable iron buckets. This elevator lifts the material about 25 feet and discharges onto an "S-A" 24-inch troughed belt conveyor, 7-foot centers (see "A," outline drawing which in turn delivers onto another 24-inch "S-A" troughed belt conveyor, 92 ft. centers (marked "B") running at right angles to belt "A" and across the top of the storage bin, the capacity of which is about 2,500 cubic yards.

In order to secure a thorough mixture of the different strata of clay, the material is discharged to the bin from this last conveyor by an "S-A" automatic self-propelling tripper. This machine continually travels forward and back on the track, automatically reversing itself at each end of its run, thus distributing the product uniformly and evenly over the entire distance, giving a perfect method of mixing it as it falls into the bin. No one carload of shale can ever be dumped at one place.

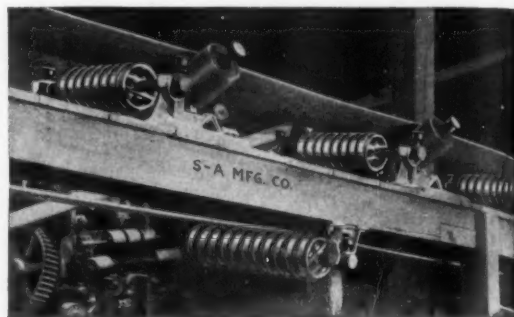
The shale can now be drawn from the bottom of the storage bin by removing planks from the top of the tunnel and allowing it to drop onto another 24-inch "S-A" troughed belt conveyor, 92 ft. centers (marked "C"). It will be seen that the manner of drawing the material from the storage bin also serves to mix it still more thoroughly. This main lower belt conveyor carries the now perfectly mixed clay to the "S-A" bucket elevator (marked "D"), which elevates it to a height of 31 feet and into the ground clay hopper (marked "E"). This hopper discharges into a pug mill, where the clay is mixed with the proper amount of water. The pug mill discharges onto a 24-inch "S-A" troughed belt conveyor, 30 ft. centers, which takes the material to an auger brick machine. This last conveyor, handling stick material, is equipped with the "S-A" patented helical belt conveyor troughing

carriers (see photograph). These carriers are unbreakable and practically indestructible. They are lighter than any other steel or iron carrier and run perfectly true. For belts handling wet clay or like material, they are unsurpassed, inasmuch as they keep the belt clean and do not themselves become coated. Notice that the carrying surface of the belt comes in contact with the rollers on the return run.

The waste green bricks are dumped from the sorting belt to an "S-A" 18" troughed belt conveyor, which again conveys them to the auger brick machine, where they are repressed.

This storage and mixing system was designed and the machinery furnished by the Stephens-Adamson Manufacturing Company, of Aurora, Ill.

The Shinnston Brick Company has been incorporated at Clarksburg, W. Va., with a capital stock



SHOWING THE "S. A." HELICAL BELT CONVEYOR CARRIERS.

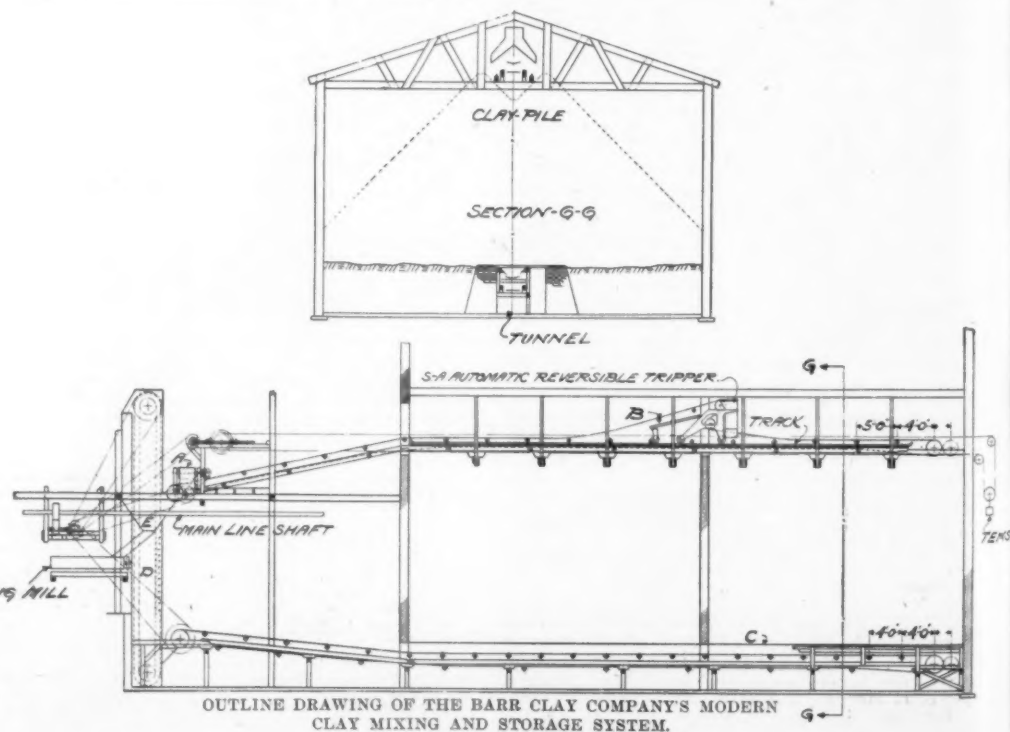
of \$9,000, by Ernest L. Pigott, H. E. Hawkins, L. F. Chalfant, C. A. Short and F. A. Brunett.

The Schneider Brick Company has been incorporated at Columbus, O., with a capital stock of \$25,000, by Charles W. Schneider, John C. Schneider, D. V. Schneider, J. S. Schneider and Fred H. Schoedinger.

The Centerville Brick Company has been incorporated at Centerville, Ia., with a capital stock of \$30,000, by D. C. Bradley, S. A. Martin, E. E. Heaton, J. F. Pabst, W. S. Shutts, Clarence A. Pealman and Frank S. Payne.

The Roah Hook Brick Company has been incorporated at Coeymans, N. Y., with a capital stock of \$12,000, by John H. Suderley, Conrad F. Suderley and Justin L. Bishop, of Coeymans.

The Steubenville Brick and Tile Company has been incorporated at Steubenville, Ind., with a capital stock of \$10,000, by C. C. Klink, Robert Lacey, Alvin Godwin, John Crampton and William Crampton.



OUTLINE DRAWING OF THE BARR CLAY COMPANY'S MODERN CLAY MIXING AND STORAGE SYSTEM.

QUARRIES

RECLAIMING FROM STORAGE.

Installation and maintenance charges of the storage bins of rock crushing plants make up the loss side of the balance sheet after a season's operations to such an alarming total that very often the collection side cannot be made to offset it. The expense of reclaiming such cheap material when once released in a storage pile only aggravates the problem. There are a few instances where practical storage and reclaiming has been effected, but for every one of these there are a dozen rank disappointments. The crushing and separating principle is inseparable from the proposition of making many sizes at one and the same time. Orders from the consumers will take one size and reject another, so that an accumulation beyond the capacity of any bin must frequently occur, and even the largest plant must be stalled when any size overruns, or a loss is encountered for reclaiming whatever amount is stored as overrun. We are looking for some mechanical genius to come forward with a plan for helping this great need of the crushing industry. Don't all speak at once, gentlemen, but ROCK PRODUCTS has a golden crown for the man who can turn this trick.

DEMAND FOR CRUSHED MATERIAL.

E. A. Velde, sales manager of the Universal Crusher Company, Cedar Rapids, Ia., visited Rock Products office recently. He says that the company has put in \$20,000 worth of equipment to manufacture Universal crushers and nothing is left undone to make the most perfect machine that is possible to turn out. No expense is spared to build a substantial machine on a scientific basis which will satisfactorily do the work required of it. The company maintains a competent engineering department which prepares plans and may be consulted on crushing equipment.

In discussing the growth of the concrete business Mr. Velde said that there was a growing tendency for manufactured material in concrete aggregates. A few years ago the finer materials and screenings from crushers was considered rejections and could not be disposed of, consequently accumulated around a plant. Today there is no crusher which has any screenings on hand, and the demand is greater than the supply. Many manufacturers are installing machinery to manufacture the finer materials, as the demand has created a profitable branch of the crushed rock industry. Granite and gravel is largely used, and the use of these materials has shown a great increase. Many concrete block operators now use crushed granite to face the blocks they manufacture. By using this material they may secure different combinations of colors which will vary the monotony of a wall.

WILL GRIND ROCK FOR FERTILIZER.

Johnson City, Tenn., May 17.—Daniel Walters of this place is contemplating the erection of a ground limestone plant at Limestone. Machinery will be put in to grind the rock, which will be used for fertilizing purposes. He expects to have a capacity of twenty-five tons per day.

The Stillwater Crushed Stone Company, of Mechanicsville, Saratoga Co., N. Y., has been incorporated with capital stock of \$18,000 to construct roads, deal in crushed stone, etc. The incorporators are Roy Smith, Rachel M. Smith, both of Mechanicsville, and William Fox, of Saratoga Springs, N. Y.

OPENED UP A QUARRY.

Kelso, Wash., May 19.—The Star Sand Company at Mount Coffin, five miles from Kelso, has commenced quarry operations. The quarry will have a capacity of 4,000 tons daily. The rock will be used for all classes of work throughout the Columbia River valley. A large part of it will be sold to contractors in Portland, who will use it in the extensive paving operations which are going on there.

A NEW CRUSHER.

Colorado Springs, Col., May 19.—The Morrison Crusher and Mining Machinery Company has been organized with a capital stock of \$50,000, to manufacture and market a crusher which is the invention of B. L. Morrison. The machine is covered by patents. The new crusher resembles somewhat a tube mill.

ENLARGING QUARRIES.

Birdsboro, Pa., May 19.—The Birdsboro Stone Company is enlarging and improving their quarries in Hopewell Hill, near here. Much new machinery and equipment has been installed. The company makes the claim that when all things are in prime working order 5,000 tons of stone will be prepared for shipment per day.

INSTALLING BIG CRUSHERS.

Kansas City, Mo., May 18.—The Middlewest Stone Company is building a new crushing plant at Gas, Kansas. Contract for the crushing machinery has been awarded to Allis-Chalmers Company, and will include a No. 7½ and No. 5 style "K" Gates gyratory breaker.

BIGGSVILLE CRUSHED STONE CO.

Biggsville, Ill., May 19.—The Biggsville Crushed Stone Company, incorporated for \$10,000, has leased eighty acres of quarry land almost within the limits of the city. The stone is known to extend to a depth of more than 150 feet, and is known as blue limestone. Machinery is being installed consisting of two large crushers. The capacity of the plant will be 500 yards daily. The stockholders are John Y. Whiteman, Herbert Fuller, Thos. Zimmerman and Lewis Weigand. Mr. Whiteman is president of the new company.

A LARGE BLAST.

Monroe, Mich., May 19.—The Monroe Stone Company recently made a large blast at their quarries. Thirteen holes ranging from 40' to 45' in depth and 5½" in diameter were drilled and 3,561 pounds of dynamite, averaging nearly 300 pounds to the hole, was placed, and a great mass of rock amounting to thousands of tons was moved.

TO CRUSH PORPHYRY.

San Bernardino, Cal., May 20.—The Phillips Contracting Company is preparing to begin the construction of an immense rock-crushing plant, in the porphyry quarry three miles northeast of Corona, in Riverside County.

The company has secured 80 acres of almost solid rock. Four gyratory crushers will be installed, while the two gyratory and jaw crushers now in use at the mouth of the Waterman canyon will be moved to the new location. It is expected that 1,000 tons of rock will be crushed daily.

A large portion of the output from this plant will be used on the streets of San Bernardino, where miles of improvements are being made.

MUNICIPAL IMPROVEMENTS AT SEATTLE.

Seattle, Wash., May 16.—Plans for a big year in municipal work are now being prepared. The principal projects on hand are the building of a number of roadways, which will require a large expenditure of money. The regrading of a number of streets is the principal work on hand. Between \$10,000,000 and \$11,000,000 worth of improvement is now under way or about to be undertaken. City Engineer R. H. Thompson has the work in charge.

CRUSHER PLANT IN WEST VIRGINIA.

Fort Spring, W. Va., May 18.—The Snow Flake Lime and Rock Company have erected a crushed rock plant at this place. The equipment consists of a number 6 and a number 4 Austin crusher. The elevators, screens, friction hoist and fifteen rear end steel quarry cars were furnished by the Austin Manufacturing Company.

CALIFORNIA PLANT FULLY EQUIPPED.

San Dimas, Cal., May 17.—The equipment of the San Dimas Rock Company was installed by the Austin Manufacturing Company, of Chicago. It includes a number 8 and a number 6 crusher, one screen 48"x16', another screen 48"x24'.

Seibert & Hoffer, of Hoernerstown, Pa., have purchased a new stone crusher and have put it into operation. They will crush stone for concreting and macadamizing.

The stone crushing plant of the Widell Company at Mankato, Minn., was destroyed by fire recently, entailing a loss of about \$10,000. The company is composed of Gustaf Widell and Gov. A. O. Eberhart.

Sherwood, Tenn., May 17.—The plant of the Gager Lime Company was visited this week by your correspondent. The plant is running full time with a splendid frontage of ninety feet of rock on the mountain side, from whence it is carried by an incline railway to the kiln.

STONE QUARRIES BUSY.

Nicholson, Pa., May 18.—The Nicholson Stone Company has been rushed with orders since the first of March. There is no probability of a letup, as there is considerable work in sight.

The Moses Shields Stone Company have started up their stone plant and are planning for a big summer's work.

E. Pardene, who is working the Carlucci quarry, reports plenty of orders and says that the quarry is in a better shape than ever.

The building of the state roads at Dalton and in Brooklyn township will require a large amount of crushed stone, and as this place is the nearest point for material, it will probably keep the quarries going here.

The quarry plant of the Commercial Stone Company, near Joliet, Ill., was destroyed by fire recently, the loss being about \$5,000, partially covered by insurance. Theodore L. Gross, secretary of the company, said that they would rebuild at once.

The South Dakota Concrete Construction Company, Rapid City, S. D., have started their crushing plants at Rapid City and Hot Springs.

The John T. Dyer stone crusher at Hornellsville, Pa., is running twelve hours a day. They are away behind in filling orders. The crushed stone, lime and sand business is booming in Chester Valley.

W. J. Miller, of Ballinger, Texas, secretary of the Business Men's League, says there is a fine opening there for someone who understands the rock crushing business and can put up a rock crusher with rock handling machinery. The deposit is limestone and is said to be of a very high quality.

W. F. Culbert, of Marion, Va., is preparing to reopen and enlarge his quarry hole, erect new buildings and install machinery for crushing limestone.

The Flood-Simpson Company has been incorporated at Trumbull, Conn., with a capital stock of \$1,000, to carry on a quarrying business.

The National Limestone Company, Martinsburg, W. Va., R. L. Ashles, vice-president, Williamsport, Pa., will establish a plant for crushing limestone.

The Big Bend Quarry Company has been incorporated with a capital stock of \$50,000, at St. Louis, Mo., by John F. Bambrick, Louis Skrainka and Morris Skrainka.

The Fox-Paxton Company has been incorporated at Little Rock, Ark., with a capital stock of \$10,000, by J. W. Fox, J. J. Fox and F. M. Paxton.

F. G. Mix, of Schoharie, N. Y., is installing a new crushing plant. New receiving bins have been constructed and the machinery is on the ground capable of crushing ten to twelve carloads of stone per day, and for the rest of the season.

The Eichel Stone and Lime Company, of Evansville, Ind., have been awarded the contract for all the crushed stone to be used for concrete purposes on the new Evansville and Mt. Carmel extension of the Big Four, the stone to be delivered at Armstrong, Mt. Carmel and Evansville.

The Menard Sand and Gravel Company has been incorporated at Petersburg, N. Y., to deal in sand and gravel, with a capital stock of \$2,500. R. Y. Kincaid, D. W. Frankelton, Jarris Du Bois and D. W. Frankelton, Petersburg, Ill.

The West Tennessee Gravel Company has been incorporated at Nashville, Tenn., with a capital stock of \$20,000, by John T. Banks, W. C. Slayden, James Graham, H. M. Clunan and John H. DeWitt.

The American Plaster Board and Plaster Company, of Passaic, N. J., has been incorporated with capital stock of \$50,000, to manufacture plaster boards and plaster of all kinds. The officers of the company are E. S. Keeton, 196 President Street, Passaic, N. J., Frank Louissen, 82 Monroe Street, Garfield, N. J., and Henry H. Rust, 80 Second Street, Passaic, N. J.

The Ohio and Indiana Stone Quarry, west of Greencastle, Ind., is now turning out twenty-five carloads of crushed stone a day and will soon be turning out thirty. On Sunday twenty-four cars were sent to Harrisburg, Ill., and on Monday twenty were sent out for ballast on the St. Louis division of the Big Four.



National Lime Manufacturers' Association

Meets Semi-Annually.

OFFICERS.

William E. Carson, Riverton, Va. President
Charles Weiler, Milwaukee, Wis. 1st Vice-Pres.
Walter S. Sheldon, Hamburg, N. J. 2nd Vice-Pres.
Geo. J. Nicholson, Manistique, Mich. 3rd Vice-Pres.
C. W. S. Cobb, St. Louis, Mo. Treasurer

EXECUTIVE COMMITTEE.

William E. Carson, ex-officio; Chas. Warner, Wilmington, Del.; J. King McClannahan, Jr., Hollidaysburg, Pa.

ALABAMA CONCERN WILL ADD EQUIPMENT.

Chepultepec, Ala., May 17.—The Cheney Marble & Lime Company have their plant at this place and operate four kilns, two of which have a capacity of 125 barrels each, the other two having a capacity of 150 barrels each. The plant is on the L. & N. railroad, and has been in operation about seven years. The rock analyzes between 95 and 98 per cent carbonate of lime. The company expects to install a stone screening plant, as well as a hydrating plant. The officers of the company are J. A. Cheney, president, and F. C. Cheney, vice-president and manager.

BUSINESS GOOD WITH RAMBO LIME CO.

Norristown, Pa., May 19.—The plant of the Rambo Lime Company is located at this place, and they have a battery of nine kilns with a capacity of seventy-five barrels each. The plant is one of the oldest in the state, having been in operation since 1830. It is located on the Philadelphia and Reading railway. The officers of the company are Wm. B. Rambo, president, and Wm. A. Rambo, secretary and treasurer. In regard to business, they say, "Now that the strikes are all over, business is very good." They expect to put in four additional shell kilns.

WILL INSTALL HYDRATOR AND CRUSHER.

Spokane, Wash., May 14.—The Washington Brick, Lime and Sewer Pipe Company have their general offices at this place, one plant at Bay View, Idaho, and another at Springdale, Wash. At the former they have five kilns and at the latter they have four kilns. They expect to install a hydrating plant for the lime branch of the business, and also to install crushing machinery for crushing rock. They say business, at the present time, is very satisfactory.

RETAILER OPERATES KILNS.

Osceola, Mo., May 20.—The Halliwell Cement Company has a lime plant here which has two kilns of seventy-five barrels capacity each. The plant is located on the Frisco road, and all the lime is taken by the company and marketed in Kansas City, where they are large factors in the retail builders' supply business.

NOW OPERATING ONE KILN IN OREGON.

Portland, Ore., May 12.—The Oregon Lime and Plaster Company, whose offices are in this city, have a lime kiln at Lime, Ore. This kiln is steel shell, elliptical in shape, and has a capacity of 125 barrels per day. This has been but recently put in operation, and they use pine wood for fuel. It is located on the O., R. & N. railroad, about five miles west of Huntington. The quarry produces a high calcium lime which analyzes between 97 and 98 per cent carbonate of lime. The quarry has been in operation for the past twenty years, but the kiln burning lime only for the past three months. The company expects to increase the battery of kilns here in the near future. The officers of the company are Chas. E. Ladd, president and treasurer, and Chas. F. Beebe, secretary and general manager. They think the outlook for business is excellent.

A. NEWTON PASSES AWAY SUDDENLY.

The large circle of friends and the lime fraternity will be grieved to hear of the sudden death of Asahel Newton, of the Marblehead Lime Company. Mr. Newton passed away at his home in Chicago on Sunday morning, May 15, of heart failure. His unexpected death came as a severe shock to both his family and his associates. He was at his office as usual on Saturday, and up until a late hour in the afternoon discussed the condition and situation with the other officers of the company. On Sunday morning he arose at his usual hour and dressed for the day, but as he was troubled with nausea he thought he would lie down for a while, so his family summoned a physician. While preparing to administer a medicine for his relief Mr. Newton succumbed. He leaves a wife and one son.

Mr. Newton was born at Lake Mills, Wis., and was in his fifty-seventh year. He has been connected with the Marblehead Lime Company for the past twenty-five years, and of late years acted in the capacity of general superintendent of all the plants. In this position he has made a number of business acquaintances, and his many close friends who will miss him greatly. The greatest tribute paid him is by those with whom he has been associated for so many years, and they say that the best said of their friend and co-worker would not do justice to his excellent character. He was a man of kindly manner and had a retiring disposition, but won the confidence of all those who came in contact with him.

In his business life he was one of the most progressive men in the lime business, always ready to take advice and counsel and as ready to impart to



THE LATE ASAHEL NEWTON.

others the valuable information he had accumulated. He was an active member of the Lime Manufacturers' Association and served in various capacities as an officer.

NEW CONCERN OPERATING IN OKLAHOMA.

Wapanucka, Okla., May 14.—W. L. Richards is the manager of the Wapanucka White Lime Works. This plant has been in operation for two months. The plant is composed of a battery of twelve kilns, with a capacity of sixty barrels each. They have a quarry which has a ninety-foot ledge. The company expect to install a hydrating plant in the near future and, while they have been in operation only a short time, the outlook is excellent. The plant is located on the M., O. and G. and the Rock Island.

PENNSYLVANIA CONCERNS MERGE.

Bellefonte, Pa., May 18.—A merger has been effected of the Bellefonte Lime Company and the Nittany Lime Company's plant. Both plants are located at Salona, Pa. The consolidated company has been capitalized for \$100,000, and the officers are W. C. Lingle, president, Frank Warfield, vice-president and general manager, and John P. Harris, treasurer. Besides burning lime, the company will also produce crushed rock for ballasting and building purposes. Mr. Warfield will have personal supervision of the plant.

ANOTHER HYDRATING PLANT STARTED.

The Kritzer Company, of Chicago, have recently completed the installation of a very large hydrating plant for the Tide Water Cement & Lime Company at Union Bridge, Md., with a very fine grade of hydrate. They are also installing a hydrating mill for the Glencoe Lime & Cement Company at St. Louis, being the first plant to establish a hydrator outfit in that great market. In the East and West and the South the virtues of hydrated lime have won for it the recognition of valuable temper, and the growth of the industry is more remarkable than that of any other in the line of building materials. It is strictly a case of where quality counts, and as the economies which are introduced by the use of hydrated lime become more generally known the demand for it will increase, and besides it is the only solution of the old problems of the lime operators which are fast passing away and will soon be forgotten.

EXPECT TO INSTALL HYDRATOR.

Hamberg, N. J., May 21.—The Vanderhoof Lime Company has taken over the property of the Windsor Lime Company and expect to install a hydrating plant.

AIR SEPARATOR IN LIME PLANTS.

Air separation enters largely into the successful manufacture of hydrated lime judging by the number of manufacturers who equip their mills with this machinery. The Raymond Bros. Impact Pulverizer Company, who have furnished so much of this machinery, have made a number of installations this year. Among them are grinders and air separators for the Ash Grove Lime and Portland Cement Company, Ash Grove, Mo.; the Eagle Lime Products Company, Dousman, Wis.; the Knickerbocker Lime Company, Philadelphia, Pa.; the Glencoe Lime and Cement Company, St. Louis, Mo.; the Security Cement and Lime Company, Security, Mo. The company says that it has greatly improved certain devices on the machine which enables them to throw out all the grit and impurities, in addition to making an impalpable and uniform finished product.

ADDING ANOTHER KILN AT GRIMMS.

Grimms, Wis., May 17.—The Union Lime Works has begun the erection of another kiln. This one is of steel construction and of improved type. This makes a battery of eight kilns that the company has at this place.

LIME FROM BLACK MARBLE.

Enterprise, Ore., May 16.—There is a deposit of black limestone near here which was experimented with and found to produce excellent lime. A company has been formed to exploit the deposit, and is known as the Black Marble Lime Company. It is composed of Charles Christy, Henry Christy and George Houser. The company erected one kiln and expects to increase this to three. The entire output has been contracted for by Edward Eben, of Joseph, Ore., who will market it. S. D. Keltner has the agency for the lime at Enterprise.

ANTRIM PLANT AGAIN IN OPERATION.

Petoskey, Mich., May 14.—The plant of the Antrim Lime Company, which was destroyed by fire last month, has been rebuilt and the kilns again put in operation.

VIRGINIA PLANT DESTROYED BY FIRE.

Norfolk, Va., May 16.—The plant of T. C. Andrews & Co. was destroyed by fire with a loss of \$75,000. The fire was due to the heavy rain storm which occurred, causing the lime in the warehouse to set fire to the timbers. Nearly all the output of the plant is devoted to lime for agricultural purposes.

BIG BLAST MADE AT WISCONSIN QUARRY.

Fond du Lac, Wis., May 16.—One of the largest blasts that has ever been made in the quarries in Wisconsin was fired in the quarries of the Union Lime Company recently. Thirty thousand cubic yards of rock were shot at one time. Seventeen holes were drilled and fired simultaneously.

The Central Missouri Lime Company, of Jefferson City, Mo., has been incorporated with capital stock of \$10,000. The incorporators are Henry, William, Joseph and Aloysius Kolkmeyer.

SAND AND GRAVEL

MAKES FIRST SHIPMENT.

The C. W. King Sand Company, of Hazard, Pa., is a new concern recently organized, which has opened a quarry on lands heretofore owned by Isaac Y. Ux and Allen McFarland, and made its first shipment of sand last week. The quarry is located on the ridge directly north of the zinc works and the quality of sand is the very best.

A GOOD PROPOSITION.

De Kalb, Ill., May 17.—The exploitation of the gravel business is to be one of the plans of the DeKalb-Aurora electric line, according to an announcement recently of the letting of a big contract for the supplying of gravel for a big paving job in Aurora.

The pits of the company are on a large tract of land owned by the corporation at Kaneville, where estimates place the amount of gravel waiting consumption at the value of a million dollars. The beds are accessible to the tracks of the line, and the gravel can be hauled to market with little expense.

NEW SAND COMPANY.

Green Bay, Wis., May 17.—There will be organized in the near future a corporation which will be called the Bay Sand and Gravel Company, in which Green Bay and Marinette parties will be involved. The company expects to operate a sand and gravel business on Green Bay. The barge Albert Soper has already been purchased and will be used in the business. She will be fitted out with a complete set of machinery for loading and unloading sand and gravel cargoes. The Green Bay parties involved in this corporation are the Greiling Brothers' Company.

The company expects to obtain their sand and gravel at the north end of Green bay and to make trips to Green Bay, Marinette and other bay points. They have made some extensive experiments with sand and gravel on Green bay and find that the sand and gravel obtained from certain reefs in those waters is the cleanest and very best for concrete and building purposes that can be obtained.

The company expects to handle everything with labor-saving devices so that sand can be laid on the docks at the different towns at minimum costs. The barge "Albert Soper" was bought from a Milwaukee party and when rigged up will have a carrying capacity of between four and five hundred cubic yards of sand and gravel.

The company also expects to install a twelve-inch centrifugal pump on the barge which they calculate to use for filling purposes; in other words the boat, in addition to being a sand and gravel carrier, will be completely fitted out as a suction dredge. By means of pipe lines, land fills can be made to almost any distance from the river.

It is also the intention of the company to equip themselves with stone crushing outfits to be used for crushing the coarser grades of lake gravel which makes the very best concrete stone.

For the present the headquarters of the company will be at Green Bay. The company intends to obtain riverside track accommodations for the purpose of shipping gravel and sand to interior points, as the tendency in architectural and engineering specifications is largely toward washed sands and gravels, which cannot be obtained at interior towns without great expense.

It is the intention of the company to be ready for business in about three weeks' time.

GRAVEL BOAT SINKS.

Vincennes, Ind., May 20.—The gravel boat operating in the Emison gravel pit, owned by the Terre Haute Sand and Gravel Company, of Terre Haute, sprung a leak Thursday afternoon and sank in about twenty feet of water. The loss is estimated at from \$7,000 to \$8,000, with about \$3,000 insurance.

OPERATING TWO PITS.

Watertown, S. D., May 20.—The Kampeska Materials Company, dealers in sand and gravel, have recently purchased and are installing a Channon drag line scraper excavator with 1½-yard scraper in their gravel pits. This company was organized about one year ago, and find the demand for their washed sand and gravel has increased to such an

extent that they are forced to increase their capacity to take care of the business. The company is now operating two pits in the vicinity of Watertown and putting out a very superior quality of gravel and sand for concrete work, the material being entirely free from clay, soil or vegetable matter.

SPRING BUSINESS FLOURISHING.

Elgin, Ill., May 21.—C. G. Heine, member of the recently dissolved hardware firm of Reed & Heine, is about to open a gravel business at Plano, Ill. Mr. Heine has purchased a large tract of gravel land there on the Chicago, Burlington & Quincy railroad. He is planning the erection of a large plant.

New machinery is being installed this week at the pit of the A. Y. Reed Sand Company on the west river bank, north of the city. A large excavator, of the type known as a land dredge, is being installed. It has a boom of 60 feet and a radius of twice that length. The new machinery will also be used in dredging sand from the river.

Spring business is opening with a rush at the pit, and the company is now shipping 25 carloads a day, as far south as Peoria and west to Belle Plaine, Ia.

SAND FOR NEW ORLEANS.

Franklinton, La., May 10.—The sand and gravel from the property of W. W. Babington, of this place, will within a short time be put on the New Orleans market, a company having just been formed for operating the enterprise, including some New Orleans capitalists, and with Herman E. Gayer, of this place, as manager.

INCREASES CAPITAL STOCK.

The Union Sand and Material Company, St. Louis, Mo., will increase its capital stock nearly 50 per cent. The present capital of the corporation is \$3,400,000. The new issue will be \$6,000,000. In filing a statement of its assets and liabilities the officials of the company declare the assets to be \$6,957,101.99 and the liabilities \$1,514,672.63. The fee on the increase of capital paid into the state treasury was \$1,301.25.

BUILDING IMPROVEMENTS.

The Eli Sand Company, Winnipeg, Man., has taken out a permit for a dock, warehouse, etc., on the east side of Pembina, between Mulvey and Fleet streets, for \$50,000. Excavation work is well advanced on the new structures, which will be used for docking and storing the company's sand, stone, lime and other building materials. The architect is W. H. Carswell.

LOCOMOTIVE CRANE ARRIVES.

Rock Island, Ill., May 20.—The Rock Island Sand & Gravel Company has begun to fill the levee between Nineteenth and Twentieth streets, in accordance with the ordinance recently passed by the city council. The locomotive crane to be used in the loading and unloading of freight from barges and freight cars has arrived, and will be installed as soon as the fill is made.

The big crane was built by the Browning Engineering Company, of Cleveland, Ohio. It will have a lifting capacity of 15 tons.

WILL DREDGE CHANNEL.

Permission has been granted to the Suffolk County Sand & Gravel Co. (formerly the American Sand & Gravel Co.) to dredge a channel in Mt. Sinai (N. Y.) harbor, from the entrance to the Satterly dock; thence to the company's pier, a distance close to two miles. A cash bond has been placed by the new company with the town trustees to guarantee the conditions which govern the proposed work. Said conditions are those designed to safeguard the public and property interests.

OPERATE ON LARGE SCALE.

St. Charles, Ill., May 19.—St. Charles has become the chief source of gravel supply for the gigantic task of double tracking the Chicago Great Western railroad from Chicago westward to Olewine, Iowa, this spring.

The Great Western railroad a number of years ago purchased the J. B. T. Wheeler farm and other property lying northwest of this city near Fox Station, owing to the large deposits of fine gravel and stone found there. The railroad at that time did not use a large amount of gravel in this part of the system and so leased the property for ten years to the Garden City Sand Company, of Chicago, which put up a number of buildings and installed valuable machinery, taking out thousands of cars of gravel, sand and stone in the interim.

The lease of the Garden City company expired last November. Efforts to renew the lease were fruitless, as the railroad now desires all of the remaining gravel for its heavy grading work all along the main lines of the system westward from Chicago.

The big gravel pits will be the scene of unusual activity with many men and costly machinery throughout the season from now on.

A big new Penslock Construction Company steam shovel, of the type in use in Panama on the canal, the largest in the world, arrived from Chicago Monday and is now at work loading gravel daily for shipment to the double track work just inside the Chicago city limits. The big machine alone has a capacity of 100 carloads of gravel daily. Agent Walter A. Hein, of the railroad, today estimated that from 150 to 200 carloads of gravel will be taken out, loaded and shipped daily from now on until the end of the rush of railroad grade work, from the local pits.

RESUMES OPERATIONS.

Helena, Mont., May 20.—The Montana Granite Brick Company recently resumed operations after being shut down all winter. A force of twelve men was put to work.

W. R. Strong, manager of the company, says the concern has enough contracts already on hand to keep it busy for half the summer, and with the contracts coming in, there is every reason to believe that it will be able to operate continuously hereafter. Contracts already received come from Kalispell, Whitefish, Chinook, Boulder, Glasgow, Great Falls and Butte.

WILL SUPPLY MATERIAL FOR BALLAST.

Evansville, Ind., May 19.—The Evansville Sand and Gravel Company have been awarded the contract for the sand and gravel to be used in the construction work on the new Evansville and Mt. Carmel extension of the Big Four. About two-thirds of this material will be loaded on cars and shipped to stations on the Illinois Central and E. & T. H., near the points where the work is going on, the balance of the material will be delivered with teams.

Orders have been given for immediate delivery of both sand and gravel.

NEW SAND COMPANY.

Smithville, Texas, May 21.—The Smithville Sand and Gravel Company is a new organization here that will get sand out of the bed of the Colorado river with the latest machinery, which has been ordered from St. Louis. They propose to furnish sand for the Katy Railroad Company and to the nearby cities for construction work.

FILES DEED OF TRUST.

The Pioneer Sand and Gravel Company, of Seattle, Wash., recently filed a deed of trust in the county auditor's office to the Northern Bank and Trust Company of Seattle for property in Stella-coom tidelands to secure a mortgage of \$400,000 for 20 years, bearing interest at 6 per cent.

The Merom Gravel Company, Sullivan, Ind., has filed suit against the Indianapolis Southern Railroad to quiet title to real estate in Gill township and to have deed revised. The plaintiff claims that when the railroad sold the land to it the deed was wrong and that the railroad is now trying to lay claim to the land The Merom Gravel Company occupies.

The entire plant of the Bartlett Gravel and Sand Company, Chattanooga, Miss., was recently destroyed by fire.

The Toledo Silica Sand Company has been incorporated at Toledo, O., with a capital stock of \$20,000, by Charles A. Albert and others.

The Paterson Sand and Pressed Stone Company has been incorporated at Paterson, N. J., with a capital stock of \$35,000, by George W. Cusco, Philip R. George, Jos. Forzmans, Alfred G. Stumpf, Hogan Grossebauer, all of Paterson.

The Indiana Sand and Gravel Company announces the change of location of their office in Chicago. Hereafter Chas. J. E. Anderson, the sand man, and his sales department will be found on the fifth floor, Room 510, Watson building, Chicago, and the new telephone number will be Main 3357.

J. Nelson & Son, Oconomowoc, Wis., has purchased of August Borchert the sand and gravel pit owned by him on the Silver Lake road.



PLASTER EXTERIORS.

Jarvis Hunt, a Chicago Architect, Evolves Plan for Beautifying Wheaton Which Could Be Employed With Great Advantage in Any City.

Without question the greatest future for the extended use of plaster and the application of plaster effects, is in the direction of the treatment of exteriors with plaster surfaces. In the columns of this journal, from time to time, we have depicted the trend of thought and study in this direction by publishing full descriptions of some of the good examples of typical work that has been completed in this way. Plastered exterior residences have become so popular already that very few of the better class of such buildings are now contemplated without a liberal use of exterior plaster. Recently Jarvis Hunt, a prominent architect of Chicago, designed what amounts to a transformation for the town of Wheaton, Ill., which is only a short distance from Chicago, and popularly known as one of the suburban towns. Now Wheaton, for a long time and at the present time, has the same uncouth, unfinished and mediocre appearance of the average western village, like thousands of others. Mr. Hunt, in his drawing, which is reproduced on this page, suggests the remodeling of the principal business street of the town so as to change it into a veritable little city beautiful.

It is remarkable that with the accompanying estimate that such a thing of beauty and exquisite taste can be produced at such small expense, and it would be in fact impossible were it not for the modern popular study of the treatment of plastic exteriors.

The enterprising merchants of the town of Wheaton have taken up this idea, and it is more than likely that during the present summer this change in the entire appearance of the village will be undertaken and brought to completion.

A facetious artist on one of the Chicago papers attempted to ridicule the idea of Wheaton becoming artistic in this way and caricatured many of the leading citizens of the town by dressing them in Elizabethan costumes to conform to the type of construction selected by Mr. Hunt in his design for remodeling the fronts of the buildings. The humor in this instance was well taken, but by no means has it diminished the interest of the citizens of Wheaton in the idea of enhancing the value of their property and the attractiveness of their suburbanite possibilities by attempting practical art to improve the appearance of things. It goes without question, that residence property in the most beautiful of Chicago's suburbs will very readily become the most valuable, and just as soon as Wheaton has become a beautiful picture town just so soon will the people who have lots to sell, find that they can get more money for them and quicker sales.

After the artist is through with his humorous caricature, and after the punster has had his say, the fact still remains that the average American will spend his money quicker in the place where the surroundings are artistic and attractive than in any other. If this were not so there would be no place in our cities for the many magnificently ornamental hotels, nor the palatial Pullman cars, nor for the ornate parks and clubs and summer resorts. There are a very large number of little towns and villages which, by following out a suggestion similar to that offered in the present instance in connection with the town of Wheaton, where the every-day comforts provided by the established community would make them more attractive for summer resort purposes than the temporary arrangements at many of the most popular resorts. This is a distinct asset to any town, one



MAIN STREET, WHEATON, ILL., BUILDINGS AFTER PROPOSED PLASTER EXTERIOR TREATMENT.

that pays big dividends and with the application of the study of exterior plastic treatment, it is easily within the reach of all of them. Such structures can be kept in first-class repair at very small cost, and the best reason why such work will be steadily more popular as it meets with wider application, is because it will pay substantial dividends constantly both on the original investment as well as the cost of the improvement.

Practically every one of the plaster manufacturers have provided suitable material for exterior use, and the range of color and variety of surface and the contours and lines that can be employed are unquestionably an upward step in modern construction.

AMERICAN TAKES OVER IOWA PLANT.

Ft. Dodge, Iowa, May 10.—The Iowa Hard Plaster Company has disposed of its mill and property to the American Cement Plaster Company, of Lawrence, Kan. The American company is one of the largest manufacturers in the business, and has



ELECTRIC RAILWAY OF THE LYCOMING CALCINING COMPANY OF GARBUTT, N. Y.

plants located in Texas, Kansas, Michigan and Oklahoma. R. W. Merrill, who was secretary and general manager of the Iowa company, will be head manager of the Northwestern office, which will be maintained at this place. The mill was built in 1906, and the company owns 260 acres of gypsum land.

PLASTER INDUSTRY AT GARBUTT.

Garbutt, N. Y., May 14.—While this city has but recently come into prominence as a plastering center, gypsum has been mined as a land plaster for nearly 100 years. At that time the business was carried on by J. W. Garbutt, after whom the town was named. He used a power mill for grinding the material.

About ten years ago the Lycoming Calcining Company established a mill here, and since that time several plants have been erected, so that this city is the center of the district, and has earned the name of quite a gypsum town.

When the first plant was established the city only had one railroad, which was the B., R. & P. Afterwards the Pennsylvania railroad, which is three miles away, constructed a line to this city.

The capacity of the Lycoming Calcining Company's plant is about 300 tons per day. The company owns 100 acres of gypsum deposit, containing two veins. Recently the entire mill and equipment was changed to electric power, and electric drills and electric pumps are used in the mines. In transferring the rock from the mine to the plant, the old style haulage has been done away with, and an electric road put in. In the plant the power is fur-

nished by two General Electric Company's direct connected engines and generators, which operate the crushers and other machinery. They also have a 175-horsepower Corliss engine, which is held in reserve.

The officers of the company are N. H. Culver, president, and F. H. McCormick, secretary and treasurer. The main offices of the company are located at Williamsport, Pa.

The same people also are interested in the Diamond Wall Cement Company, who have a plaster mixing plant in this city, and this concern makes all kinds of wall plaster, including wood fibre plaster. In speaking of the outlook for the year, they say that it is very favorable.

WILL MANUFACTURE WALL BOARD.

Grand Rapids, Mich., May 20.—The American Cement Plaster Co. is building an addition to its plant here. The building will be two stories high, 100'x208' of concrete and steel construction. The building will be used for the manufacture of wall board and partition blocks. It is expected the plant will be in operation by September.

ANOTHER MILL IN OKLAHOMA.

Carmen, Okla., May 18.—The Carmen Cement Company is breaking ground for a plaster manufacturing mill. It will put up a \$100,000 plant. The company owns 160 acres of stone land.

CHANGE NAME OF GRAND RAPIDS CONCERN.

Grand Rapids, Mich., May 15.—As the Anti-Kalsomine Company, of this city, has become generally known as the Alabastine Company through the wide publicity given its product, the stockholders met several weeks ago and determined to change the title to the Alabastine Company. To protect the old name, which has a big trade value, members of the directorate have incorporated the Anti-Kalsomine Company, with a capitalization of \$10,000, paid in property.

FISHACK TO BUILD AT PORT CLINTON.

Port Clinton, Ohio, May 13.—The Fishack Plaster Company has made arrangements to put in a \$150,000 plaster mill about two miles east of here. They have been held up on account of the railroad and electric line having some litigation over the laying of a switch track on the property.

WOOD FIBRE MACHINES INSTALLED.

The Shuart-Fuller Manufacturing Company, of Elyria, Ohio, have just shipped a wood fibre machine to the American Cement Plaster Company, Fort Dodge, Ia., to be installed in the plant recently purchased of the Iowa Hard Plaster Company. They have also placed machines with the Paragon Plaster Company, Syracuse, N. Y., and one at the Mineral City mill of the United States Gypsum Company, Fort Dodge, Ia. This makes the eighth machine sold to this company.

WILL MANUFACTURE IMITATION MARBLE.

Richfield, Utah, May 19.—J. M. Bickel has been working on a process for using gypsum in the manufacture of imitation marble. He has succeeded in securing capital for his project, and has made arrangements for the manufacture of this product on his property at this place.

AGITITE MILL INJURED BY FIRE.

Quanah, Tex., May 19.—The Agitite Cement Manufacturing plant, whose mill is located at Acme, was injured by fire to the extent of about \$25,000.

The American Tile and Plaster Company, of Newark, N. J., has been incorporated with capital stock of \$25,000. The incorporators are Edward Kibbler, George S. Middleton, H. L. Maddacks, Albert Steve and C. W. Montgomery.

The Eastman & Johnson Manufacturing Company, of St. Louis, Mo., have increased their capital stock from \$2,000 to \$15,000.



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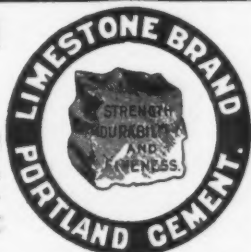
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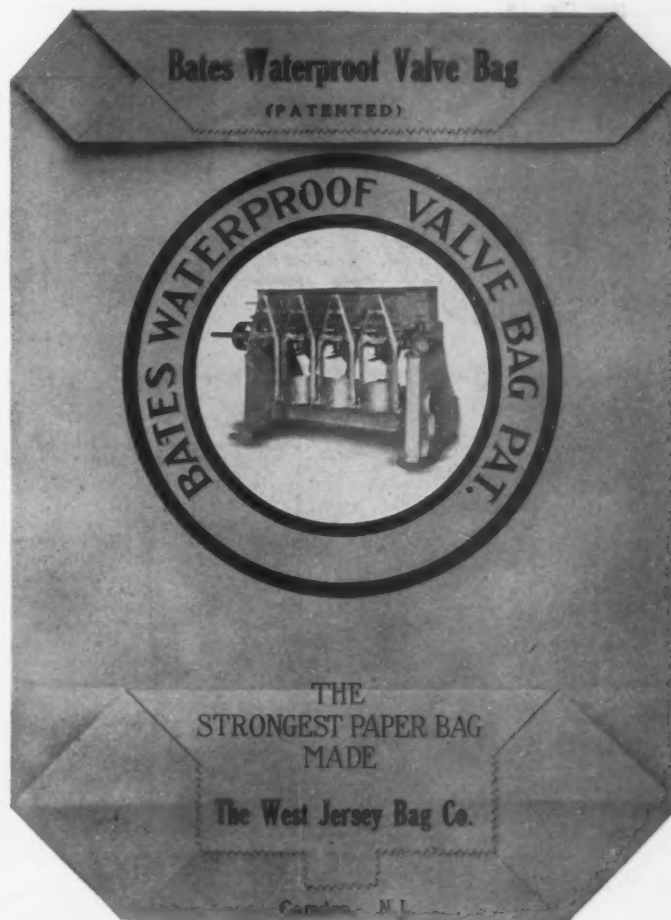
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WAR DEPARTMENT ENGINEER OFFICE, UNITED STATES ARMY.

Nashville, Tenn., February 20, 1909.

KOSMOS PORTLAND CEMENT COMPANY,
Louisville, Ky.

Dear Sirs:—Replying to yours of the 12th instant, I beg to advise you that our records show that 22,250 barrels of Kosmos cement were received at Hales Bar, Tennessee River, for the lock under construction at that point, between June 23 and September 25, 1908. All of this material was tested and all of it accepted under the requirements of the Engineer Department specifications.

Very respectfully,
WM. W. HARTS,
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You secure a permanent patch, better and more easily done.

It is applied with a brush. Time of mending and money saved.
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Because they will earn excellent dividends on important concrete construction work by accurately measuring the cement, sand stone and water in correct proportions by weight. Because in a cement plant they will give absolutely accurate proportions of the raw materials before mixing, a

positive check on all coal received, the accurate weight of all coal dust delivered to kilns, the exact amount of clinker produced, the correct proportions of clinker and gypsum, a positive record of finished cement delivered to stock bins, and, finally, the dustless, accurate and rapid weighing and packing of the finished product into bags.

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CEMENT

THE CEMENT SITUATION.

The *Banker and Tradesman* has the following to say about the cement situation, and we publish the same merely to show the trend of feeling. While there is something of truth in this article it is written in a somewhat pessimistic tone.

The present low market price for cement has made it extremely difficult for the promoters of cement manufacturing companies to enlist capital. Investors in many of the cement companies, floated within the last few years, are also becoming dissatisfied, and it is becoming an open question if many of them will see daylight for a long time to come.

With the average selling price of cement for more than a year below the actual cost of production, even for a majority of the best equipped companies, the outlook for the cement trade is not particularly bright. The main difficulty experienced in showing a profit is on account of the large amount of money necessary to construct a plant of capacity and equipment which will turn out a good quality of cement at low cost. Then, in addition, there is the almost constant need of repairs, due to the incessant grinding of solid rock. As a result of numerous improvements and the wear and tear, a cement plant may need rebuilding every five years. Furthermore, it is now generally understood that first-class material for cement is to be found in almost every section of the country. There are also large quantities of foreign cement which could easily be sent to this country if domestic prices became high. If it were not for a duty of 32 cents a barrel, it would be difficult for American manufacturers to compete with the foreign product.

Prices in years gone by have gone as high as \$2 a barrel in bulk from the mill, which rate was as unquestionably high as present prices of from 45 to 80 cents, are unquestionably low. During the last year not over 60 per cent of the cement manufacturing capacity of this country was able to work, in spite of the fact that business was good and consumption large. The financial difficulties reported in recent months by a number of cement making concerns clearly shows the trend of the business, and has made it extremely difficult to finance old companies, or promote new ones.

The fact of the matter is that during the past several years the supply of cement has been far greater than the demand, and as a consequence the actual scramble for business resulted in a price-cutting war which made matters much worse than they should have been. This proved beyond a doubt there was no coöperation among the manufacturers of cement or else they could have prevented this.

The government statistics which are just out, show that there was produced in this country last year between 61,000,000 and 62,000,000 barrels, which is not very far from the estimate at first made by ROCK PRODUCTS. It might be said by way of explanation that some portion of this cement is as yet unused, since it is customary for all cement plants to keep a stock on hand. In fact, no cement plant sells up to its capacity, as cement has to age before it can be used. In the forming of cement companies in the past much has been said which was not true, and at the present time there is a likelihood that some promoters who were trying to start a cement plant in the West will be haled before the federal grand jury.

Drastic measures should be taken to prevent the formation of companies where there is no real necessity for them, or where the conditions do not warrant it. As long as the country continues to grow at its present rate, it is doubtful whether the present output of the present plants will be too great, but as we have said before in these columns, there is a danger always of killing the goose that lays the golden egg. However, there is no law to prevent anyone from organizing a cement company, as it is pretty clearly understood now that the manufacture of cement is no longer a secret, and that property containing ingredients for the manufacture of Portland cement can be found in many states.

New uses for cement are being discovered every day, and unless some unforeseen setback takes place there will not be an overproduction this year, because there is enough building and construction work in sight to use up the present output of the mills. No one who uses cement but what is willing to see the manufacturer get a fair profit, but the chances are that cement will never go as high as it did several years ago, and which was really the cause of so many cement plants springing into existence. Promoters were wont to take the reports of the best operating companies, and by a little juggling of the figures were able to prove that there was millions in it. That some of these dreams did not come true is no fault of the promoters. Portland cement will always be a stable product and will always command a good price, but it is doubtful whether anyone will ever realize the tre-

mendous profits which the promoters have pictured. The demand for Portland cement this year has been fully up to all expectations. In fact the most sanguine of the cement manufacturers is more than pleased with the present business. Prices are gradually coming up. Advances are noted in all parts of the country of from 10c to 20c per barrel. In some localities an effort is being made to put up the price 5c per barrel per month. The fact that cement has recovered itself without any organization on the part of the cement manufacturers is proof conclusive that the demand is once more catching up with the supply. Whenever the demand gets greater than the supply the price will go up accordingly.

There is very little surplus stock on hand in any part of the country. All the mills are running, most of them to their fullest capacity. There have been several new mills started up recently and there are still a few more in course of building which will commence operations this summer, but the present outlook is good in spite of this, and we see no reason to expect anything but a continuation of good conditions.

CEMENT PRODUCTION IN 1909.

The following preliminary estimate of the production of cements in the United States in the year 1909 has been prepared by Ernest F. Burchard, of the United States Geological Survey. The annual statistics of the mineral production of the United States are ordinarily collected by the Geological Survey only, but those for 1909 are being collected by the Survey in coöperation with the Bureau of the Census, in order to avoid annoyance to miners, manufacturers and others by duplicate requests from government bureaus. This coöperative arrangement will necessarily result in considerable delay in the publication of the report on the cement industry for 1909, and for that reason many manufacturers requested the Survey to collect the data on cement in the usual manner. The director of the census approved the course requested, and accordingly the usual inquiries were sent by the Survey to cement producers. Owing to the conditions stated, these requests were sent out more than two months later than last year, but replies have now been received from about 88 per cent of the Portland cement companies in the United States.

As shown by the quantities reported in the replies received, to which has been added the estimated output of the small number of producers who have not yet responded, the production of Portland cement in 1909 was between 61,300,000 barrels and 62,000,000 barrels, which, valued at 85 cents a barrel, was worth at the mills between \$52,105,000 and \$52,700,000. This represents an increase in quantity of at least 10,227,000 barrels and in value of at least \$8,557,000 over the production in 1908, which amounted to 51,072,612 barrels, valued at \$43,547,679. The increase in quantity was therefore at least 20 per cent over that of 1908. The reported selling price per barrel averaged the same as in 1908—about 85 cents—although Portland cement was sold during the summer of 1909 at a figure so low as to cause a general expectation that the average price for the year would fall below that of 1908.

The returns for the production of natural cement are not quite so complete as those for Portland cement, but they indicate that the total production in 1909 was not far from 1,500,000 barrels, valued at about \$675,000, an average value of 45 cents a barrel. These figures show a slight decrease as compared with those for 1908, when the production was 1,686,000 barrels, valued at \$834,509.

The production of puzzolan cement, as reported, shows a slight increase, about 160,646 barrels, valued at \$99,453, having been produced in 1909, as compared with 151,451 barrels, valued at \$95,468, in 1908.

The details of manufacturing developments and trade conditions will be discussed in the annual report of the Survey on the cement industry, which is now in preparation as a chapter of the volume on "Mineral Resources of the United States, Calendar Year 1909."

SALES MANAGERS TO MEET.

The sales managers' branch of the National Association of Cement Manufacturers will hold its semi-annual meeting at the LaSalle Hotel, Chicago, Monday, June 13th, at 2 p. m. A. H. Craney, Jr., is the president of the organization, and Charles L. Johnson is the secretary. The organization is social in its nature and has resulted in cementing the ties of friendship among the boys on the firing line much closer. Their meetings are always held in connection with the parent organization, as many of the members belong to both organizations.

CEMENT MANUFACTURERS' MEETING.

The semi-annual meeting of the National Association of Portland Cement Manufacturers will be held at the LaSalle Hotel, Chicago, June 13 to 15, inclusive. At the last meeting, which was held at the Hotel Astor in New York, it was decided to discontinue the quarterly meetings, and to hold the semi-annual meeting in the West.

The annual meeting will always be held in December in New York.

W. S. Mallory is the president of the organization. Percy H. Wilson is the secretary.

While no program has been issued it is presumed that the first day's session will be given over to the executive sessions. On the second day will occur the regular meetings and the banquet. The third day will be given over to open discussions and reading of papers. The local members are arranging some character of entertainment. This is the first time for several years that the association has met in the West, and no doubt the attendance will be very large.

SCHAEFFER APPOINTED RECEIVER.

Philadelphia, Pa., May 20.—Herbert A. Schaeffer, head chemist of the Northampton Portland Cement Company, was recently appointed receiver for that concern by Judge McPherson, the company having been declared a bankrupt. When the court took up the application for a receiver nearly a dozen attorneys, representing interested creditors in this city, New York and other cities, appeared, and General Manager Roseberry, Attorney Maxwell and Mr. Schaeffer were at first named for receivers. Because some of the creditors alleged that the present disaster to the company came about under Mr. Roseberry's management, his name was dropped, and then by consent of all parties concerned Mr. Schaeffer was named and his bond fixed at \$25,000, with power to continue the operation of the plant, there being many orders placed for delivery this spring.

Attorney Louis S. Posner, of No. 20 Broad street, New York City, said that the failure of the company came about through competition with other cement concerns, causing sales of thousands of barrels of cement at rates which were below the cost of manufacture. The plant is located at Stockertown, Northampton county, Pa., and the company has a New York office at No. 30 Church street.

The petition bringing about the bankruptcy proceedings was made by Attorneys Sydney E. Smith and W. A. R. Schultze, who are said to have represented these creditors: John W. Cutler, \$10,000; Walter W. Lee, \$10,000, and Frank C. Pringle, \$10,000.

The company was incorporated in March, 1900, with capital stock of \$900,000, and since then first and second mortgage bonds have been issued, of which it is said about \$360,000 are outstanding, and the company had no rating at Bradstreet's. The company acquired eighty-four acres of land near Stockertown, on which mills and plant were erected, and which were said to have cost about \$100,000 more than the original estimates.

In December last the company's valuation of the plant and real estate was \$1,400,000, and other assets then consisted, it was said, of accounts \$75,000 and stock on hand and cash \$50,000. Liabilities outside of the bonded debt were placed at about \$300,000. William J. Dingee is president.

HERBERT ELECTED VICE PRESIDENT.

Nazareth, Pa., May 20.—A meeting of the directors of the Lily White Cement Company was held at which time J. D. Herbert, M. E., was elected a director of the company, and also its vice president. Work has been started on the plant with a large gang of men under Superintendent Ed. Berger.

RECEIVER FOR THE EGYPTIAN.

Lenton, Mich., May 18.—Attorney George F. MacNeal recently filed papers for the appointment of Edward G. Forte as receiver for the Egyptian Portland Cement Company. The action was brought by Mr. MacNeal for Wilcox & Co., of Toledo.

ATLAS RAISED WAGES.

Northampton, Pa., May 20.—On May 1 the Atlas Portland Cement Company raised the wages of all its employees, nearly 10,000 in number, ten per cent.

EXPECT TO START SOON.

Superior, Neb., May 20.—C. W. McLaughlin, president of the Nebraska Portland Cement Company, is here and is busy staking off the grounds for the new cement plant and also for the side tracks for the railways to run to the quarries. Mr. McLaughlin said that they had been delayed by many seemingly trifling things, but they are progressing nicely now and expect to soon commence building.

BIRMINGHAM AS A CEMENT DISTRICT.

Birmingham, Ala., May 20.—This city is rapidly forging to the front as a center of Portland cement manufacture. Situated, as it is with the local advantages, source of supply and shipping facilities, it will soon be another Lehigh Valley. Development in the South, improvements both municipal and private, has created an enormous demand for cement. There is at the present time two plants manufacturing cement. The Standard Portland Cement Company has a plant at Leeds, and the Southern Cement Company is operating at North Birmingham. This company manufactures a hydraulic cement. A third plant is now in course of construction at Ragland. This plant, known as the Atlantic and Gulf Portland Cement Company, will soon be in operation. It is reported that two of the largest Portland cement manufacturers, the Atlas and the Universal, will establish plants near here for the manufacture of Portland cement.

The Standard Portland Cement Company's plant has been in existence four years. It was started in a small way, but has grown until its present capacity is three times the original capacity. Further improvements are being planned and it is announced that the plant will be enlarged within the next six months to twice its present size. This company now has \$500,000 invested at Leeds, and the proposed betterments will bring the investment up to \$1,000,000.

The plant now turns out 1,200 barrels of cement daily, and the new plant is expected to make 2,000 to 2,500 barrels daily.

The Standard Company's plant consists of quarries with full working equipment, three No. 5 crushers, three rotary kilns, consuming 100 tons of coal daily, preliminary and finishing grinders, storage tanks and automatic sackers. All the machinery of the plant is operated by electricity, the motors being impelled by turbine driven engines.

The Southern Cement Company produces 300 barrels of hydraulic cement daily, practically all of which is utilized in Birmingham.

This plant represents an invested capital of more than \$100,000.

Birmingham and the Birmingham district makes use of 300,000 barrels of Portland cement annually.

JOHNSON MAKING GOOD.

Charles L. Johnson, sales agent of the Southwestern State Portland Cement Company, one of the "Cowham System" at Dallas, Texas, has made a record since his arrival in Texas last December. His policy of "sell to dealers only" has been a winner, and between his old friends and his newly-made friends in the South he is easily disposing of the output of his plant. Mr. Johnson was the first of the sales agents to come to the front seventeen years ago with this ever winning policy. He is one of the most popular men in the cement business, and his many friends in the East will be glad to learn of his success.

SOO CEMENT PLANT.

Sault Ste Marie, Mich., May 21.—A cement plant, costing in the neighborhood of \$850,000, is now considered practically assured for the Soo. The city has fulfilled its agreement with the Great Lakes Portland Cement Company by furnishing \$25,000 and securing necessary clay lands. J. L. Schallaire, of Milwaukee, has just closed the deal and left for Chicago, from whence engineers will be sent shortly to make a survey of the site.

IOWA PORTLAND STARTS.

Des Moines, Ia., May 17.—The Iowa Portland Cement Company, whose plant is located at Cementville, which is a short distance from here, commenced operations recently. The plant has just been completed at a cost of \$1,500,000, and covers an area of several acres.

WILL REORGANIZE.

Kansas City, Mo., May 20.—The uncompleted plant of the Chanute Cement and Clay Products Company was sold here by a committee representing the bondholders of the original company, for \$77,200, no other bid being made. Officers to take charge of the reorganized company will be chosen at a meeting which will be held in Chicago. C. T. Beatty, a member of the reorganization committee, says the formation of the new company will be completed this month and it will be ready to begin the completion of the plant with the coming of June.

Persons who purchased bonds in the original company are forming the new corporation. Their interests at the present time are being looked after by a committee of five members, two of whom—Mr. Beatty and A. N. Allen—live in Chanute. Mr. Allen is trustee for the bondholders in the reorganization movement.

BAUMBERGER BUSY.

A. Baumberger, of the Lumbermen's Portland Cement Company, of Kansas City, Mo., says that he is one of the busiest men in the great western building materials center, and the company is selling all the cement that they can make, and besides the big brick plant at Carlisle is about ready to go into operation and will be shipping brick to the trade by the middle of July. The cement plant at Cape Girardeau is expected to come into bearing about the first of August or near that date.

INVESTIGATION STARTED.

Ottawa, Kan., May 19.—The organization and promotion of the Bonner Springs cement plant is before an investigation in the federal court jury. Charges that the United States mails were used for fraudulent purposes in the promotion of this industry will be thoroughly sifted by the grand jurors. If the claim of some of the critics of the company as to the methods employed are sustained, punishment in the form of a penitentiary sentence will result. U. S. Hannum and O. L. Taylor, who are members of the stockholders' committee on reorganization of the company, have been summoned as witnesses before the grand jury.

MARENGO STARTS.

Caledonia, N. Y., May 19.—The Marengo Portland Cement Company has started operations here. One of the three kilns commenced burning cement May 11, and the other two will be started shortly. J. M. Gause, of Omaha, Neb., the chemist who will take charge of the laboratory, has arrived and is on the job.

HECLA HAS BUSY SEASON.

The Hecla Cement Company, of Bay City, Mich., is experiencing one of the best seasons since it began operations. They have recently installed some new machinery and generally overhauled the plant. The company is shipping most of its output by rail, but they are also shipping by water as well. They have increased their capital stock from \$1,000,000 to \$1,500,000. The principal offices of the company are in Detroit, and while the object of the increase of the capital stock has not been announced, it is presumed that it is to provide for a consolidation of the various properties. At present its coal mines and its belt line railroad are owned by subsidiary companies.

HEAVY DEMAND IN TEXAS.

From all indications the present year in Texas promises to be the greatest in the history of the Lone Star state. Crops are in excellent condition and general business is flourishing. The cement mills of Texas will have a big year, as the state is so large that it can consume their output without any difficulty whatever.

TO ENTER FOREIGN MARKET.

Philadelphia, Pa., May 17.—Arrangements are being made by the American Cement Company to enter the West Indian and South American markets for cement. These South American countries now import about 5,000,000 barrels of Portland cement a year, taking it almost exclusively from Europe.

The new plant of the Norfolk Portland Cement Company, Norfolk, Va., a subsidiary of the American Cement Company, will be ready for operation in August, according to present plans.

The Freeborn Engineering Company, of Kansas City, Mo., has been awarded the contract for the construction of a large cement plant at Juarez, Mexico, for the International Portland Cement Company.

The Lake Shore Portland Cement Company, Sandusky, O., has reduced its capital stock from \$1,500,000 to \$1,000,000.

The Monarch Portland Cement Company, of Humboldt, Kan., recently paid a dividend.

The Alpha Portland Cement Company, Alpha, N. J., has increased the wages of its unskilled men seven per cent.

The McCormick Waterproof Portland Cement Company, of St. Louis, has been incorporated. Capital stock fully paid, \$150,000. Incorporators, Theresa K. McCormick, Wm. J. Brennan, Chauncey Vennewitz and J. P. McDonough.

The Magnesia Cement Company has been incorporated at Port Washington, N. Y., with a capital stock of \$100,000, by Harry R. H. Nichols, Frank Poggenburg, William H. Russell, Frank Collins and Charles Jackson, of New York City.

**ANNUAL MEETING.**

The annual meeting of the Cement Products Exhibition Company, of Chicago, was held in the suite of the Universal Portland Cement Company at the Commercial National Bank Building on May 10. President Edward M. Hagar presided at the meeting, and J. U. C. McDaniel, secretary, recorded. The following officers and directors of the company were present: Vice President Norman D. Fraser, B. F. Affleck, Chairman of the Board of Directors; Geo. M. Bartlett, Director, and J. P. Beck, Manager, and several of the stockholders.

The full report of the show held last February, which had been duly checked and audited, was presented by President Hagar in detail between the courses of a splendidly served luncheon, which was complimentary to the meeting on the part of the president and his assistants in the Universal Portland Cement Company. The report exhibited that the Cement Show last February was tremendously successful from the standpoint of the publicity contributed to the industry, and that the accounts of the undertaking had been closed with a small percentage on the right side of the ledger.

No appropriations or dividends were considered, as the fixed purpose of the company's organization is not for making a profit, but for capitalizing the assembled wisdom of the officers and stockholders into the promoting of more uses for cement. The president and manager reported their inspection of Madison Square Garden as a place for holding the initial show at New York next December, and by unanimous vote of the stockholders it was decided to endorse the proposition presented to the meeting as endorsing their action in every respect. The company will hold two shows next winter, the first in New York, to be held at Madison Square Garden, December 14 to 20, 1910, and the regular Chicago show to be held at the Coliseum in February, 17 to 23, 1911.

Manager Beck will prepare and plan for the purpose of accommodating exhibitors who desire to use both shows, so that an exhibit prepared for one show can be moved bodily and set up again for the other, in this way saving a large part of the expense. The attendance at the New York exhibition will naturally not attend the Chicago show on account of the distance, and thus one expenditure for ornamenting an exhibit will serve for both occasions. ROCK PRODUCTS has steadily advocated the holding of a cement show at Madison Square Garden for the past three years, and without a doubt, under the skillful and experienced management of the Cement Products Exhibition Company, it will be a tremendous success, one which will reflect credit not only upon the managers and promoters, but upon the great cement industry of America as well. The classification of the exhibits at the New York show, as well as those at all future Chicago shows, will be classified as completely as it is possible to do such a thing, and exhibits to be accorded more prominent places in the exhibition hall will have to contain artistic merit sufficient to warrant such location. In fact, the design of the intended exhibits for the more prominent locations will be required to be placed before a competent committee before such places will be allotted.

TWENTY RESIDENCES OF PAULY TILE.

Youngstown, Ohio, May 18.—Geo. E. Huggins, manager of the Modern Homes Company, has recently placed on order with the Concrete Stone and Sand Company for a bill of concrete structural tile for the construction of twenty residences complete, and the buildings are now going up very rapidly. A similar order will be placed as soon as the first twenty houses have been completed. The Modern Homes Company is a real estate concern of very substantial financial standing, and has adopted concrete tile construction after a very widely exhausted examination of all types of modern construction and material with a view to obtaining the best for the money.

A. A. Pauly, the inventor of the Pauly system of tile, is the manager of the Concrete Stone and Sand Company, who are extensive manufacturers of the tile of his invention. He allowed the Modern Homes Company to make a careful inspection and examination of his product, the method of its manufacture and the result as exhibited in some hundreds of

houses that have been constructed in whole or in part from the tile made at his plant. Investigation of these and other building materials with other types of construction was conducted by competent and skilful men who decided that the tile construction secured to the builder greater values, dollar for dollar, than any other way they could invest their money, and this, with a greater element of permanent safety to their finished building, and with a distinctly higher value from the standpoint of modern convenience, safety and good taste.

USES THE PAULY SYSTEM.

The Agricrete Tile Company, San Diego, Cal., has recently been organized and equipped with a complete outfit of machinery to manufacture concrete structural tile by the Pauly process. The stockholders of the company are heavily interested in real estate transactions in the San Diego district, and the product of the plant is practically provided for to be used in the building of ornate country homes for the many Eastern millionaires who spend their winters in California. Several magnificent estates have ordered all of the buildings and structures of every kind to be made of concrete tile. We hope in an early issue to have some illustrations of the really beautiful work that is being done.

BLOCKS IN SCOTLAND.

Consul J. N. McCunn, of Glasgow, reports the growing popularity of concrete blocks in Scotland for house construction. Two years ago the merits of hollow concrete block construction were hardly known in Scotland. Since then a number of tenement houses, cottages and villas have been erected with these blocks in and near Glasgow, the experiment convincing the builders that they cost less than stone for buildings, are equally substantial and more pleasing to the eye. For centuries stone has been the chief building material in Scotland and the finest skilled labor has been employed in stone construction. With the introduction of concrete block machinery it has been demonstrated that the blocks may be turned out with ordinary labor, and that the machine is comparatively inexpensive and easy to operate.

A Glasgow dealer has secured the agency for an American concrete block machine and has already sold a large number of them. The dealer is enthusiastic over the prospect and states that there is a great future for concrete block building in Scotland, and now that the first step has been taken, others will follow by using this material for every class of building. Within slightly over a year's time there have been constructed in or near Glasgow approximately \$150,000 worth of new concrete buildings.

It is claimed that the American machines tried so far are more efficient than those of British or other make, and that they can be sold here at a price that will fully meet all competition. In view of this, and that concrete block construction bids fair to become a large factor in building operations throughout Great Britain, it would seem that there is an excellent opportunity for American manufacturers of cement and concrete molding machinery.

CONCRETE EXHIBITS AT FAIR.

Topeka, Kan., May 15.—One of the features of the Kansas State Fair in Topeka this fall will be a group of exhibits by cement manufacturing concerns, cement house building contractors, garage building contractors and other users of cement. This is one of the features Secretary H. L. Cook, of the fair association, is now working on, and he expects to have a large group of exhibits at the fair.

Secretary Cook is working to interest the farmers in some of these special departments, and the cement exhibits will be among them. Cement manufacturers and users ought to be deeply interested in an opportunity to show their products and work at a fair at which there will be thousands of farmers and city home builders who are becoming interested in the question of building homes, barns and garages with cement.

"The cement exhibit is one that the manufacturers, the contractors, the dealers and the users will all be interested in this fall," said Secretary Cook. "Building homes and other structures of cement is a new thing, and everybody wants to know about it and is willing to be convinced that it is a good thing. There will be no better opportunity offered the manufacturer or contractor than in Topeka at the Kansas State Fair. The Kansas people have the money, and they are open to suggestions."

NORFOLK BLOCK COMPANY.

Norfolk, Va., May 20.—A concern founded with local capital, to be known as the Norfolk Miracle Block Co., of which John Evans is president, has started the manufacture of concrete blocks.

CONCRETE WITHSTANDS A HOT FIRE.

Concrete construction was put to a crucial test in the burning of the 100,000-bushel elevator of McCray, Morrison & Co., at Kentland, Ind., last month, says *The Grain Dealers' Journal*. At the time of the fire everything was very dry, and the buildings were so quickly enveloped in flames the workmen scarcely had time to escape with their lives.

The two photographs given herewith, showing the plant before and after the fire, tell the story clearly and accurately. In an L formed by the different buildings a reinforced concrete grain drier had been erected and enclosed by a frame ironclad covering. This building was ten feet from the elevator building on the side and sixteen feet distant on the end, which was connected to the elevator with wood conveyor boxes.



MCCRAY, MORRISON & CO.'S ELEVATOR AND DRIER BEFORE THE FIRE.

The plant contained approximately 450,000 feet of lumber and 50,000 bushels of grain, which was consumed in a few hours, leaving nothing but the concrete drier standing plumb, surrounded by a smoldering mass of debris. The drier housing was burned away; the metal fans and steam pipes were red hot and warped. The brass grease cups on the fan bearings were melted and the iron doors warped, but the concrete work remained intact with little damage, notwithstanding it contained about 700 bushels of corn which was reduced to ashes during the fire. The drier supported its own garner and 12,000 pounds of steam pipe, yet not one of its supports failed.

In no previous grain elevator fire has concrete been put to such a severe test, and in no case has it passed through a fire with more gratifying results to owner and builder. This reinforced concrete drier was designed and erected by Fred Friedline & Co., who are making plans for a new plant for the burned out firm.

INCREASES CAPITAL STOCK.

Grand Rapids, Mich., May 19.—To care for business increase of the present and future, the Battjes Fuel and Building Material Company has increased



MCCRAY, MORRISON & CO.'S PLANT AT KENTLAND, IND., AFTER THE FIRE.

its capitalization from \$20,000 to \$100,000. Of this amount about \$20,000 will be kept in the treasury for future use, the rest being largely taken by the present stockholders. The company was formed about seven years ago, and has its place at 1001 South Division street. It manufactures cement building blocks and handles sand, gravel and other building materials.

CEMENT SHOWS.

Official announcement has just been received from the Cement Products Exhibition Co., 115 Adams street, Chicago, regarding the New York and Chicago Cement Shows. The eastern event will be held in the Madison Square Garden, New York City, December 14-20, 1910, and the Chicago Show will be held as usual in the Coliseum, Chicago. The dates of the latter event will be from February 17-23, 1911, inclusive. All contracts of importance in connection with the shows, have already been placed, and the intervening months will be spent in perfecting the details. The passenger associations have been duly petitioned so that attractive railroad rates will prevail during the period covered by both shows. The result of the ballot taken to ascertain the feeling in regard to the New York show is also announced. This enterprise is unanimously endorsed, and somewhat more than 80 per cent of the exhibitors at the recent Chicago show have signified their intention of exhibiting at New York. The interest manifested by eastern manufacturers, who have not hitherto exhibited, is already apparent, the number of inquiries for space at the New York show being such as to hasten completion of the general prospectus of the New York and Chicago cement shows, which is at present in preparation. This prospectus will contain full information regarding both events, together with diagrams showing space available at the Madison Square Garden and at the Coliseum, and the rules and regulations by which exhibitors will be governed, and application forms. Attention in the immediate future will be chiefly centered in the New York show, owing to it taking place prior to the middle west event.

Madison Square Garden, probably the most historical exhibition building in the world, will for the first time in history resound with the noise of the concrete mixer. In years past its reputation alone has added success to the successful shows held within its walls, and there is no gainsaying the fact that the success which will attend the New York Cement Show will accrue in the selfsame manner. Elaborate plans to make this show a world-wide event are now in preparation, and indications already point to its exceeding in every respect the shows which have been so successfully held in the middle west metropolis for the past three years. In keeping with the importance of the occasion, many innovations, unique in character, are promised.

The general uniform plan of exhibits, however, has again been decided upon, the advantages being so apparent that it would obviously be detrimental to the interests of the exhibitors to deviate from the plan to which they have become accustomed and which has hitherto given entire satisfaction. No one who realizes the immensity of a proposition of this kind, involving the equipment of 50,000 square feet of floor space to the satisfaction of three hundred odd exhibitors, will question the statement that the uniform plan is the correct solution. It simplifies the problem, inasmuch as the entire building can be handled by contract and thereby also effecting a saving of considerable time and money to the exhibitors. Another important element, which doubtless influenced the management in their decision in favor of uniform exhibits, is the division of responsibility, which any other method, if adopted, would naturally incur. For example, exhibitors who are unacquainted with local labor conditions would be at the mercy of irresponsible contractors, whose workmanship is always open to criticism; and then again, there is the possibility of the work not being undertaken until the last moment, if undertaken at all, causing annoying and costly delays in any event. On the other hand, the responsibility is focused on the management, whose unquestioned ability on these matters has been amply demonstrated during the three years of their connection with the work.

The classification of exhibits, a question that has been raised from time to time, is still under consideration, and rumor has it that the management will be guided by the decision of the majority of the exhibitors at the last show, who are soon to be approached for their views on the matter. A word on classification is, therefore, appropriate at this time. Exhibitors who are interested in the show, from an educational standpoint, in their efforts to avoid the possibility of being located next the manufacturer of the concrete mixer or tamper, with their abundant noise, must not seek a remedy which will in any way imperil the advantages undoubtedly theirs under the present system of allotting space by drawing. In other words, classification of exhibits means the abolishment of the present system of "fair field and no favor" followed by the management since 1907 as the only method to avoid discrimination. Most of us realize this, and the question is, therefore, one worthy of deep consideration before any change is attempted. From the visitor's viewpoint, much can be said in favor of classification. At

earlier shows no difficulty was ever experienced in locating certain exhibits, but the show of today has grown to such proportions that the problem warrants the immediate attention of the management. It may be, however, that a more elaborate schedule of directions embodied in the official program and the installation of an efficient information bureau, with a uniformed staff of attendants, would overcome this phase of the difficulty. In any event, some such arrangement is at least worthy of trial, before resorting to classification, which would impose an injustice on many of the exhibitors, who favor the absolute fairness in the present system of allotting space.

CONCRETE THE BEST.

At the last meeting of the Society of Civil Engineers in Paris, the kinds of material and methods of construction most desirable in the restoration of Messina were discussed. Testimony was offered to show that in Sicily, Chile and Japan stone structures have suffered more from earthquakes than buildings having steel or wooden frames. The former have less elasticity than the latter. "Reinforced" concrete has also given an excellent account of itself. One of the reservoirs which supplied Messina with water, and which was built of concrete, is said to have been uninjured by the great shock of last December, though the pipes (presumably of other material) were so badly broken that the contents of the reservoir were lost. Japan's experience with wooden houses, however, emphasizes the obvious fact that they are easily destroyed by fire. Thus is raised the question whether even in a place like Messina the risk from that cause is not greater than the danger from seismic disturbance.

It becomes expedient to inquire, therefore, whether it is not feasible to combine protection against both classes of peril in some one type of building and, perhaps, secure the added virtue of cheapness at the same time. For the majority of small dwellings and for many buildings devoted to business the ideal material would be one having fire-resisting qualities and great elasticity, but comparatively inexpensive. The choice would seem to lie, then, between wood, treated with chemicals so as to render it incombustible, and concrete. Some of the fireproofing processes employed in the treatment of wood render it less workable with carpenter's tools, but it is claimed that this disadvantage does not attend them all. Timber is growing increasingly scarce in Europe, and with the added cost of the necessary chemicals, beams and dressed boards, might not be so economical as concrete. Which would prove the cheaper in Messina is a question more easily answered there than in America. Perhaps the suggestion made by one of the French engineers, that an incombustible product of wood pulp, a new material, be employed, is worth considering. Such a substitute for planks and beams might prove equally serviceable and yet reasonably inexpensive.—Exchange.

USE THRESHING MACHINE.

Toronto, Can., May 20.—Three ingenious farmers living near here—Lauris and Peter Larson and Gus Anderson—are finding good use for their thresher engine at a time when it otherwise would be useless, and have developed into manufacturers of cement tiling. Already they have received sufficient orders from neighboring farmers for the tiling to keep their novel plant working at full capacity all summer.

They are using the thresher engine for power purposes, and have provided themselves with a mixer and several molds. They propose increasing the capacity of their plant so that by the latter part of the summer they can commence the manufacture of cement building blocks, for which there will be a ready sale.

The plant is in operation on the farm of the three men two miles northeast of town. They have unlimited quantities of sand and will develop a manufacturing business which will be conducted in connection with their regular farm work.

CONCRETE DRY KILN.

Watertown, Wis., May 17.—Mallow & Kaddatz have been awarded the contract for a new concrete dry kiln for the Watertown Table Slide Company. It will be one of the most substantial buildings of the kind in this section. The contract calls for its completion within one month.

The Bondville (Ill.) Cement Block factory has started operations again, with Ben Crippen and J. H. Neblick at the helm. The factory has a capacity of 300 blocks per day and has built up quite a large trade in concrete blocks in its locality.

CONCRETE BLOCK RESIDENCE.

Concrete blocks make an attractive building when well made and laid. There are many of these in various parts of the country, and we are reproducing one which was erected at Marion, N. Y. The blocks were made on the Miracle machine by E. Warner & Son, of that city. They also built the house. It required 2,934 blocks, including those in the foundation. No furring or lathing was required and the plaster was applied direct to the walls of the building. The owner says that the walls are absolutely dry and in two years' occupancy it has given entire satisfaction. The porch is of concrete construction with a concrete floor. The house is finished in chestnut throughout, the floors of the first floor are of hardwood while those of the second story are pine. The roof is shingled with Cart-



CONCRETE BLOCK RESIDENCE BUILT BY E. WARNER & SON, MARION, N. Y.

wright tin shingles. The total cost of the building, including grading, walks and improvements, was \$3,000.

PORTABLE CONCRETE GARAGE.

The David Craig Company, of Boston, Mass., is manufacturing and erecting portable concrete garages. All the parts are made at the factory and delivered to destination ready for erecting. The garage is then bolted together with a monkey wrench, thus making it possible for purchasers at a distance to erect their own buildings without skilled labor. They can be readily taken apart, removed to a new location and erected again. They are absolutely fireproof, thus reducing the insurance cost to a minimum rate. The frames and sills are made of steel bolted together. The side walls are made of reinforced concrete slabs with tongue and grooved joints which fit together and require no mortar. The roof is made of copper on steel T bars. Provision is made for heating, artificial lighting and plumbing. The same company say they are prepared to furnish portable concrete residences and churches.

BARN OF CONCRETE BLOCKS.

We print herewith the photograph of the building which took the second prize in the contest of the



BARN OF CONCRETE BLOCKS ERECTED BY FRANK LEWIS OF HARPURSVILLE, N. Y.

Century Cement Machine Company, at the Chicago Cement Show. The judges awarded the second place to the photograph of a large concrete block barn, erected by Frank Lewis, of Harpursville, N. Y. The barn was built of blocks made with Hercules machines, and is a splendid example of this type of construction.

INVITE BIDS FOR CONTRACT.

Mellinger Brothers, of Cumberland, Md., invite contractors to bid on the construction of the new Mellinger Theater, to be erected in that city. The plans were prepared by Albert E. Westover, of Philadelphia, Pa.

MEETING WITH SUCCESS.

Grand Rapids, Wis., May 19.—The Carey Concrete Company, using the Zagelmeyer system of steel molds mounted on cars, have been making concrete blocks with wonderful success. They pour the liquid concrete and leave it in the molds until it sets hard enough to remove safely from the molds. The higher grade blocks are faced with crushed granite, both red and gray. They are then treated with acid, which exposes the sparkle of the granite. They have already sold 6,000 blocks, although they have only begun manufacturing them.

They are making the blocks in three sizes, 8x8x24, 8x10x24 and 8x12x24, with quarter, half and three-quarter sizes. They also make them only 4" high of the same sizes, so that they can be laid in alternate courses. They make their blocks as nearly waterproof as it is possible to make them, using screened gravel and sand with some crushed granite to fill out, everything being measured, a sack of cement being the unit used. The Carey Concrete Company has lately increased its capital stock \$5,000.

CONCRETE HIGHWAY POSTS.

Clinton, Mass., May 20.—The Clinton Concrete Company is manufacturing 6-foot posts for the purpose of marking the bounds of the state highway throughout Massachusetts. They will be set along every mile of the state roads. Manager Nelson E. Mather, of the Clinton Concrete Company, said, "We are able to furnish the state these posts molded square, finished and ready to set in the ground for less money than they were paying for the unfinished split granite posts that were formerly used." The posts used marking the state road bounds are cast in square molds, and after about twenty-four hours in which to harden are taken out and smoothed by hand. About three inches from the top of the post and cast in the mold are the letters M H B. These posts are set in the ground nearly six feet, or just so the letters show above the surface. The same company is getting out an order of twenty-four basin tops for Clinton. They are also doing quite a little work in curbing and gutter paving.

BRIDGE CONTRACT AWARDED.

Somerville, N. J., May 17.—The Somerset County Board of Freeholders met at the courthouse here recently with a committee from the Morris County board, and awarded a contract to the Ferro Concrete Company, of Harrisburg, Pa., for the building of a concrete bridge over the Passaic River, near Stirling, between the two counties. The bridge is to cost about \$3,100.

ARTISTIC CONCRETE WORK.

Waco, Texas, May 20.—The Waco Cement Stone Works started operations here the latter part of last year under the management of P. J. Sether, a graduate of the Royal Arts School at Berlin, Germany. It has been manufacturing "art growth" trimmings, vases, fountains and garden fixtures with great success.

CONCRETE BARGES.

Cincinnati, O., will construct the first barge built of concrete ever shown on the inland waters of the United States. Local concrete manufacturers will be asked to confer with the Ohio Valley Exposition management about one or more concrete barges, about 14 feet wide by 30 feet long, for use on the canal. It is proposed to have the barges finished in plastic relief and gaily decorated with multi-colored lights and bright streamers, and to use them for "sailing" up and down the canal, with motor boats towing them. There will be a band and singers on each craft and seats for about fifty passengers.

CONTRACT AWARDED.

Easton, Pa., May 18.—The Buskirk Quarry and Construction Company, of this city, has been awarded the contract to furnish the concrete for the erection of the three buildings about to be erected by the Lily White Cement Company about a mile from Steuben Station. Besides the mill there is to be a stock house and power house, all constructed of concrete. When complete the plant will turn out about 500 barrels of perfectly white cement a day.

WILL MANUFACTURE CEMENT BRICKS.

Biggsville, Ill., May 18.—The Biggsville Cement Brick and Block Works, of which James Kilgore is at the head, will shortly commence operations here. The plant will have a capacity of 12,000 cement brick per day. The brick will be made in what is known as the hydrolite lime waterproofing process, and a cement block machine will also be installed.

MCDONALD CONCRETE TIES A SUCCESS.

In an effort to make more progress in the mighty tie problem of the modern American railroad today, the Santa Fe railway has taken up with vigor the reinforced concrete tie experiment, and has witnessed the first signs of success.

In June, 1907, the Santa Fe placed twenty reinforced concrete ties in the main track between Los Angeles, Cal., and Redonda Junction. In March, 1908, the inspector of track and roadway reported that the ties showed "no indication of deterioration or failure in any way," and in April, 1910, they were reported to be "in first-class condition in every respect." The track on this line is ballasted with gravel and the traffic is heavy.

The McDonald tie is reinforced with horizontal steel rods bent up under the rail seats and tied together at intervals with vertical rods, which serve also as web reinforcement. The rail is secured to the tie by spiking into sections of wrought iron pipe set in the concrete. The inside diameter of the pipe used for this purpose is a little less than the greatest dimension of the spike, in order that the spike may cut the metal enough to insure a firm connection.

The length of the section of pipe is made the same as the depth of the tie, and both ends are passed through tie plates and expanded, so as to hold the plates solidly in the surface of the concrete. This construction allows the tie to be used with either face up. It is necessary to use a spike with a head so formed that its under face will conform to the top of the rail base when the spike is partially rotated, for at each redriving the spike should be turned so that its edges will cut an unused portion of the pipe and furnish a new bond. When the surface of the concrete crumbles under the tie plate or the end of the tube becomes too badly worn to hold the spike, the tie may be turned over in the track, thus providing a new surface and an unused portion of pipe to spike into.

The cost of the tie when made in small numbers is given by the inventor at about \$1.30, and it is stated by the same authority that a railway, by using company forces in the making of the ties, could reduce this price by at least 25 cents.

In addition to the installation on the Santa Fe, a slightly modified form of this tie has been installed on all the lines of the Los Angeles Railway Company, but no reports of its performance in this service are as yet available.

The shortage of suitable timber for railroad ties and the constantly increased expense of the same has led many railroad companies to make experiments costing thousands of dollars for the purpose of improving the tie situation.

At this time the Santa Fe is shipping millions of ties from Japan to place under the rails in this western country. Needless to say, this is costing the company millions of dollars every year.

The railroads over the country are watching the reinforced concrete tie experiments on the Santa Fe with intense interest.

CONCRETE BURIAL VAULTS.

Oklahoma City, Okla., May 19.—E. O. Parsons, who has been manufacturing concrete building blocks, has made quite a success of reinforced concrete burial vaults. The vaults are manufactured from strands of steel wire woven diagonally to shape diamonds. Three different rows of them are placed on each side, end, bottom and cover of the boxes. It has been only a year since the Parsons company started the work of building the reinforced concrete burial vaults, but the business has doubled since then.

ENDORSE CONCRETE STREETS.

Marshalltown, Ia., May 18.—This city has been investigating the concrete street. City officials who have returned from their trip to Minneapolis, Fond du Lac and Chicago, while they have made no formal report, have expressed themselves as being satisfied that the concrete pavement is a good pavement and the cheapest that could be laid in Marshalltown. Property owners will be allowed to have concrete instead of brick if they want it.

WILL INSTALL NEW MACHINERY.

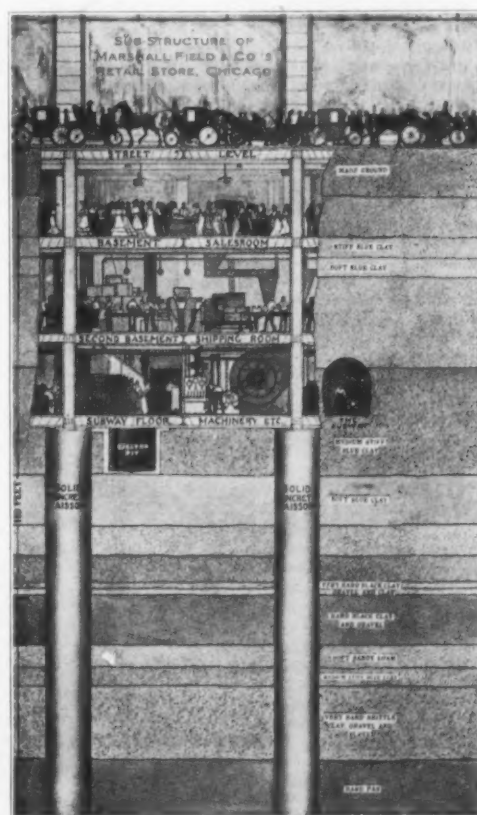
Onawa, Ia., May 20.—A deal has been consummated here whereby A. B. Elliott, proprietor of the Turin cement block and tile factory, becomes owner of the K. A. Pullen cement block factory of this place. Mr. Elliott was compelled to enlarge his facilities for the manufacturing of cement blocks, and as Onawa is an ideal location for such an institution, he has taken the Pullen plant over, and will open it up for business soon. New machinery will be installed.

CHICAGO FOUNDATIONS.

Wells Brothers' Company was awarded the contract for the foundations of the Blackstone Hotel on September 15th, 1908, to be completed December 15th. The work was actually completed two weeks ahead of contract time. The foundations consisted of thirty-four solid shafts of concrete averaging seven or eight feet in diameter and extending down to about 110 feet below the level of the street to the solid rock which underlies the city.

The digging of wells for caissons in Chicago is a difficult and dangerous undertaking, especially in the vicinity of Lake Michigan and the Chicago river, inasmuch as running sand and water are encountered in great quantities. By means of steam pumps throwing four-inch streams of water out of the wells, the contractors were able to keep the water under control so that the men could continue digging with but little interruption. Otherwise it would have been necessary to resort to the use of compressed air, which would have been an extremely expensive and cumbersome method of operation and would have caused serious delays in the progress of the work.

In the few years since the modern Chicago method of constructing foundations to bed rock has been adopted, in place of the ineffective pile foundations and floating foundations, Wells Brothers' Company has installed in a highly satisfactory manner the new style foundations for at least twenty or twenty-five of the most important buildings in Chicago, including in addition to the Blackstone



SECTIONAL VIEW SHOWING FOUNDATION AND SUB-BASEMENTS, MARSHALL FIELD & CO., CHICAGO.

Hotel, the south section of the Marshall Field retail building, the Congress Annex, the Republic building, the Chicago Savings Bank building, the Commonwealth Edison Company building on Market street. The Ryerson building, the Steger building, the Hart, Schaffner & Marx, the Arthur Dixon building, the Wabash Telephone Exchange building, the Kesner building.

The company is now constructing the caisson foundation for the new twenty-story building for the Harris Trust & Savings bank, the entire contract for which building has been awarded to the same company.

LONG CONCRETE ARCH.

The proposed concrete arch which is to support the aqueduct carrying the barge canal over a gorge at Medina, New York, will be one of the finest as well as one of the largest concrete arches in the world. The preliminary plans call for a clear span of 285 feet, with a rise of 53 feet and a total width of 129 feet. There will be a load of water of 825 pounds per square foot, and the total load on the arch will be 36,700 tons.

CEMENT BRICK SCHOOL HOUSE.

Utica, Ill., May 18.—The cement brick to be used in the construction of the Jefferson school building, the contract for which was let Friday, are made by the Universal Brick Company, of Utica, controlled by N. J. Cary and C. A. Cary, of Utica.

The introduction of this brick and all other sand-cement brick has been an up-hill pull for all companies. They have had to conduct a school of education, and, while cement has been used in the old world for centuries, people here have, until comparatively recently, feared to adopt it.

The government has put cement brick to all sorts of tests, and have found them not wanting.

The fact that the Ottawa Board of Education saw fit to stray from the regular path and adopt the cement brick is quite a plume in the helmet of the Utica concern, as this is the first public organization to adopt this make of brick.

The Utica company is willing to back up their brick, and has entered into a bond with the school board to replace the brick with clay brick at any time they fail to meet the requirements.

NEW SYSTEM IN CALIFORNIA.

The San Francisco Stone and Brick Company, of Oakland, Cal., announce the invention of a system of machinery which converts concrete into a finished hardened stone by a rapid automatic process which employs hydraulic pressure. It is claimed that a crushing strength of 14,000 pounds to the square inch is produced by this new system practically instantaneously, and that an absorption test of 16-10 per cent to 3 per cent is easily obtained.

The new principal in hydraulic pressure is described as one which applies 2,500,000 pounds pressure with great economy of power. A press has been built which works automatically, and the feeding device made to operate so rapidly that 3,000 course stone have been produced in a day. The press has been set up in the open and the demonstrations quoted have been produced on that press.

STRIKE SETTLED.

St. Louis, Mo., May 20.—The cement workers who have recently been on a strike have settled their differences by arbitration. They have gone back to work. Their wages will be, for foremen 62½ cents per hour, finishers 55 cents per hour, and block men 45 cents per hour, mixers, stone masons and laborers 40c per hour. This is a raise of 2½ cents an hour over the old scale. This is the second strike settled by the Building Industries' Association.

HIRAM SNYDER DIES.

Hiram Snyder, an expert in cement construction, and the head of the firm of Hiram Snyder & Co., of Manhattan, died at his home, 383 Madison street, Brooklyn, on Sunday. He was born in Rosendale, N. Y., in 1842. Mr. Snyder was president of the Eclipse Lighterage and Transportation Company, and one of the charter members of the Building Material Exchange in this city. He was a member of Mecca Temple, Mystic Shrine; the Knights of Honor, and the Scottish Rite. His wife and two daughters survive him.

SECURES LARGE CONTRACT.

Cleveland, O., May 17.—The Carey Construction Company has been awarded a big concrete job in Detroit in connection with the installation of a new pumping station.

The company has contracted to install 6,000 yards of concrete. It secured the contract at \$136,000, agreeing also to install 200 tons of steel and excavate 20,000 yards of dirt for the sewage tank.

CONCRETE CAP.

Milwaukee, Wis., May 19.—A contract has been awarded by the Board of Public Works to the W. H. Gillen Company for a concrete cap over the outer entrance to the water works intake tunnel. The cost is to be \$6,960. Water works officials of St. Paul were guests of City Engineer C. J. Foetsch today while inspecting the Milwaukee plant. The visitors, John W. Lux, John Caulfield and George Daily, left for Chicago.

CONCRETE SHELTER HOUSE.

Oshkosh, Wis., May 18.—Walter Hansen was awarded the contract for the construction of the concrete shelter house and public convenience at North Park. His bid was \$1,584, from which Mr. Hansen will deduct \$35 for the material in the several old buildings in the park, which are to be razed.

Fire destroyed the plant of the Portland Concrete Company at Springvale, Me. Loss, \$7,000, \$5,500 on machinery.

CONCRETE FOUNDATIONS FOR LUMBER PILES.

(Continued from page 2.)

A recent edition of the *Hardwood Record* contains the results of the experiments, which found the solution in concrete for this purpose. A previous issue of that paper contained an elaborate article, illustrated with sketches of plans and concrete foundations for lumber piles, giving suggestions covering methods of piling lumber. The data for this article was supplied by Henry Ballou, superintendent of that foremost lumber and flooring manufacturing house, Cobbs & Mitchell, Inc., of Cadillac, Mich. For some time Mr. Ballou has experimented carefully with concrete foundations, and the result of his work shows that this system involves a distinct economy, improves the stability of lumber piles and leaves his yards clear of debris, thus making a better fire risk.

The accompanying halftone shows in a general way the method of building the concrete foundation, and also shows a pile of lumber on such foundation. In a letter to the editor, Mr. Ballou says that something over a year ago he commenced investigating this matter, and in spite of former experience in handling concrete, found it necessary to make some changes in the forms and in the mixture first employed. He now uses four parts of bank gravel and one part of cement in place of five parts of gravel and one part of cement when he first began the work. He now eliminates all the wooden blocking and makes his cement blocks the following sizes:

16"x16"—4" thick.
16"x16"—6" thick.
16"x16" at the bottom tapering to 12"x12" at the top, 6" thick.
12"x12" at the bottom tapering to 8"x8" at the top, 6" thick.

In making these blocks Mr. Ballou employs a plank platform made of dressed lumber laid on the ground on which the mixing is done, and a similar platform for moulding the blocks. These forms are made encasing dressed boards 4" and 6" wide without any bottom to them. These forms are laid on the platform, filled with concrete flush with the top edge of the forms and the surplus concrete scraped off with a straight edge. As soon as the concrete is firmly set the blocks are removed from the forms and stacked up for thorough seasoning before using them. It is well to paint the inside of these forms with common black lubricating oil so the concrete will not stick to them. The bevel-shaped blocks will readily come out of the forms by turning them over, but the concrete blocks with the straight edges are hard to remove without taking a hammer and drawing the nails slightly at one corner of the form. The forms for rectangular blocks could be hinged together at three corners and the fourth supplied with a hasp and staple, and readily be released from the concrete.

The picture shown in connection with this article is a view of one full 16-foot pile containing 20,000 feet of partly seasoned lumber, and beside it are the uncovered foundations of a pile from which the lumber has been recently removed. It will be noted that this view shows four sticker bottoms, but, of course, as many of these bottoms can be used as desired, depending upon custom and the length of the lumber. It will also be noted that Mr. Ballou employs six concrete foundations on the front sticker, five on the rear sticker and four on the two inner stickers.

He has now discontinued using any planking for foundations, and is eliminating the use of timber for blocking as fast as it rots out. So far he has found the concrete foundations very desirable. When the the lumber is removed from the bottoms each time, he finds there is no rotten plank to handle, and his yards are much more acceptable as a fire risk, as there is no debris to catch fire from sparks that fall from the mill or locomotive smokestacks. The object in making the rectangular blocks in two thicknesses is for building the foundations, as sometimes a 6-inch block will be thicker than will be required for an inner foundation. Mr. Ballou arranges his piling bottom to slope three-fourths of an inch to the foot in length of pile.

In mixing the concrete for these blocks, the mixing boards can be located anywhere that is handy for the delivery of the gravel, cement and a supply of water, and then carried on tramway cars or lumber trucks to the points where they are to be used.

The scheme of employing concrete foundations for lumber piles, as outlined by Mr. Ballou, certainly seems worthy of adoption by anyone maintaining a lumber yard at one place for more than a single year. If this foremost Cadillac house, which could employ low cost cull, hardwood hearts for foundation purposes, finds it desirable to substitute con-

crete, it certainly will be much more economical for handlers of higher priced timber to adopt this plan. Beyond the economy of the scheme is the fact that it eliminates the trouble encountered from rotting of the wooden foundations, and throwing piles out of line or upsetting them entirely, and leaves the yard free from the general run of foundation debris. Concrete foundations mean the making of ideal lumber yards.

CONCRETE IN DRAINAGE WORK.

When our fathers came West to establish homes and enjoy the pure atmosphere of our open prairies, land was perhaps the cheapest thing they found. That, however, is a thing of the past. Where but fifty years ago the buffalo and deer roamed now may be seen cities with sky-scraper office buildings and immense factories. Farm land, and even homesteads, that could have then been bought for three or four dollars an acre are now worth up into the hundreds. The remarkable fertility of the soil was responsible for this, and this is the one thing that made it possible for millions of families to go into this section and establish the best and happiest homes in the world.

It is estimated that there is still about 75,000,000 acres of land remaining unproductive on account of its swampy nature, which, if properly drained, would be just as fertile and probably more productive than the land which is now producing millions of bushels yearly.

There is no doubt as to the fertility of this soil, for it has been continually demonstrated that the best crops grow on reclaimed swamp land. The Indiana Bureau made an investigation of the influence of tile drainage on crops, taking an entire township five years before drainage had been commenced and extending this investigation ten years, or covering a period of five years after most of the township had been tile drained. This investigation showed that the crops were increased over 150 per cent by the installation of tile drainage. Drainage promotes absorption of the various elements from the atmosphere, in that it opens up the soil with small crevices and openings. It is claimed by some good authorities that in hot weather, air enters the outlet of the tile drain, distributes itself all along the line and passes up through the earth by the means of these openings. In this way gases are absorbed out of the air, and even some of the elements are oxidized and rendered more susceptible to the uses of plants. At the same time moisture is taken from the air and deposited in the small pores of the cool soil, just as on a hot day the moisture gathers on the outside of a water pitcher. One reason why drainage prevents drought is that it breaks up the soil into finer particles and makes it more retentive of moisture. It is found that the finer the particles the more capillary water is held between them. This is due to the fact that in a given body of small particles there is more surface area than in the same volume of larger particles, consequently there is more surface to be covered by the thin film of capillary water. Thus it may be seen that drainage may be very beneficial to comparatively dry land. This brings us to the question of the tile itself. In order to get the best results it is necessary to have a tile constructed so that it will have the maximum strength and yet be porous enough to allow free distribution of moisture, not only at the joints but along its entire length. The first experiments in drainage were conducted with a baked clay tile. It was found that a clay tile, in order to have the required strength, must be thoroughly burned, this burning glazes the surfaces and makes water percolation nearly impossible, leaving the only outlets for the distribution of water at the joints. This led to the use of concrete as a desirable material for this work, it being stronger, porous and a material on which the elements of nature have no effect, being a combination of natural materials made by natural process by the chemical properties contained in themselves.

It is a fact that many persons with no knowledge of construction whatever and apparently ignorant of the simplest actions of cement or concrete, have brought about failures which have caused not only the loss of many dollars but have given the theorists a chance to knock and add to their imagination. They say that it may be ruined by alkali and gases; that it may be weakened by electricity; that its success depends entirely upon the proper and permanent setting of the cement. The first two of these assertions have been proven false and the latter only depends upon whether the cement is actually put into the aggregate or not; of course, if it is left out, it can hardly set up properly. To controvert the idea that cement is a new and untried material, we want to take you back into the history of the world. Back to the days that saw the birth of the Pyramids, over 4,000 years ago—to the time of King Solomon and the beginning of the Christian era, a little less than 2,000 years ago.

The water supply of the city of Jerusalem is furnished from reservoirs built of concrete; the Roman aqueducts; the lookout towers of Ireland; the Pantheon at Rome; the great wall of China, were built of concrete and stand today in defiance of time. By careful investigation, the scientists have found that the Romans were as well versed in the use of concrete as we are today, that they used it in much the same way, by the use of wooden forms. The marks of the moulds can be readily discerned and in many cases the grain of the wood can be clearly seen. Still these marvels of ancient achievement show little or nothing as compared with the gigantic concrete work of today.

A little more recent history of concrete, especially tile, is shown at the Iowa State College. Thirty-two years ago, when these buildings were constructed, an eight-inch cement pipe was laid to drain the fountain, and a ten-inch cement tile to drain the campus. Recently samples of both pipes were taken up and tested in the college laboratories by Professor Marston, dean of the Engineering Department. In his report to the college, Professor Marston said that so far as they could judge, these tile, after being in the ground for thirty-two years, were unimpaired and that he could see no reason why such pipe should not continue in use indefinitely.

In referring to drainage and cement tile used in this work, Professor Marston said: "We have found the earliest drains constructed in the state to be sound and hard, and have taken up some of these tile, transferred them to the college, tested them and found them to be strong and unimpaired."

When excavations were made in Brooklyn for the Rapid Transit Subway, concrete pipe that had been laid forty-five years before were found in perfect condition. At Atlantic Mills, Olneyville, R. I., a 3,000-foot concrete pipe has been carrying the scalding hot acid and potash fluids from the dye works for the last thirty-five years, and still no signs of disintegration can be detected.

Concrete is a desirable material for tile, because freezing has no effect on it; its porosity allows a free distribution along its entire length; its crushing strength is nearly 3,000 pounds better than the best clay tile, and the older it gets the stronger and better it is.

The Marblette Garden Furniture Company has been incorporated at Yonkers, N. Y., with a capital stock of \$10,000, to manufacture and deal in cement, etc., manufacture and sell imitation marble flower boxes, vases, busts, pedestals, etc., by Jacob Maurer, Henry I. Greenblat and James H. Hooper, all of Yonkers, N. Y.

The Home Concrete Block Company has been incorporated at Brooklyn, N. Y., with a capital stock of \$2,000, by Harrison Rockefeller, 332 Lenox Road, and Hans Skomfoe, 1684 Nostrand Avenue, of Brooklyn, and Justus W. Smith, 60 Wall Street, of New York City.

The New Jersey Cement Stone Works has been incorporated at Passaic, N. J., with a capital stock of \$20,000, by Harold Danielson, 11 High Street; Gilbert D. Bogart, 68 Lafayette Avenue, and Elizabeth Hultse, 11 High Street, all of Passaic, N. J.

The Chickasha Cement Burial Vault Company has been incorporated at Chickasha, Okla., with a capital stock of \$10,000, by J. A. Rose, F. M. Frey and E. S. Dougan.

The Lock Bar Steel Concrete Company has been incorporated at Chicago, Ill., with a capital stock of \$50,000, by C. F. Rathbun, R. M. Ashcraft and E. M. Ashcraft, Jr., all of Chicago.

The Greenpoint Cement Works Company has been incorporated at Brooklyn, N. Y., with a capital stock of \$1,200, by Francesco Franzese, 43 Havermeyer Street; Aniello Franzese, 67 North Sixth Street, and Francisco Panico, 309 North Seventh Street, all of Brooklyn.

B. F. and Bart Martendale, of Daytona, Fla., will establish a plant for manufacturing concrete and ornamental blocks.

Hancock, Mich., will lay three and one-half miles of concrete sidewalks this summer. This will call for the use of 1,875 barrels of Portland cement.

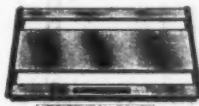
The contract for placing Raymond concrete piles in the foundations of St. Adelbert's (Polish) Church at Schenectady, N. Y., has been awarded to the Raymond Concrete Pile Company, of New York and Chicago, through its Schenectady representative, George W. Van Vranken. W. L. & H. G. Emery, architects.

Side Talk

Probably there is no greater problem or drawback to the success of the would-be cement user than the lack of knowing how to use mortar and the trowel after the block maker has hauled a load of concrete blocks to the job. When one attempts to spread the mortar on the web of a block there always seems to be a tendency for the mortar to run into the air space or to slop over the sides without or within. Certainly no more unsightly work has been done than by the unskilled workmen trying to lay them without any practical knowledge of the use of the trowel or experience

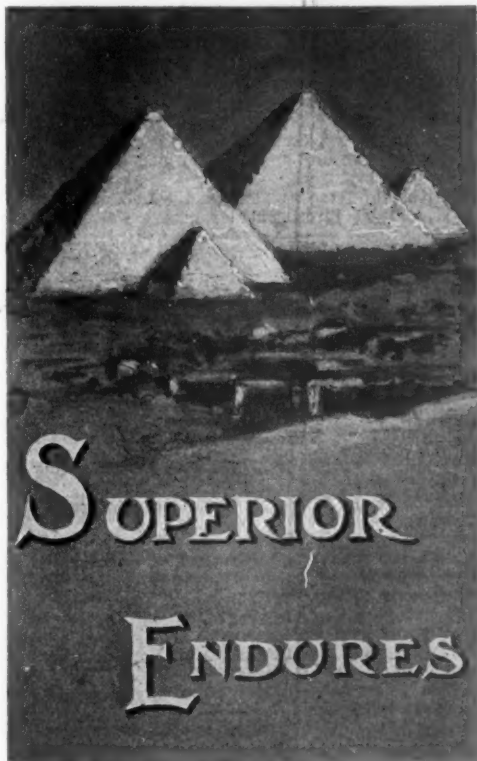


VERTICAL GAUGE



HORIZONTAL GAUGE

in spreading mortar. The same difficulty has been encountered by those who have been forced to try to lay a few brick or, in fact, any kind of masonry work. It is one of those old classic troubles that many people have encountered. Now recently W. H. Ormsby, of Zenia, O., himself a practical man, has devised a simple little device by which any man of ordinary intelligence, can actually do the work of an expert in any kind of masonry work, whether it is the laying up of concrete blocks, brick laying or building tile walls. Herewith we illustrate both the horizontal and vertical examples of the device which Mr. Ormsby calls his mortar gauge. The Ormsby mortar gauge is just as effective and practical as it is possible for such an ingenious device to be. It costs very little and it has the effect of making an expert workman in this particular line of a man who is willing to try and do his best to get the best results in his power. It is one of the little specialties that has long been needed, and which thoroughly fills the bill.



The above illustration is a part of the cover-plate of a lucid little treatise on Portland Cement, just issued by The Superior Portland Cement Co., Union Trust Building, Cincinnati, Ohio, for free distribution among those interested in knowing how this cement is made, of what it is made, and why it will last for ages.

Until within quite recently lime manufacturers were content to burn lime in the old-fashioned crude kilns, which were nothing more than a hole in the ground lined with refractory stone or brick. In the old days it was customary to mix the fuel with the stone, layer by layer alternately, so that in burning the fuel in this manner the flame and smoke came in direct contact with the rock and produced the lime. The output from each kiln was necessarily small, and very unsatisfactory lime was produced, on account of uneven burning and the presence of a large amount of impurities—ash, clinker, etc.—due to this method of burning.

This method of burning lime has of late been partially superseded by so-called improved kilns, these being of a lesser diameter and higher than the old pot kilns, and some attempts have been made to produce flame-burnt lime by placing the fire outside of the kiln proper. By gradual process of improvement and enlargement and with added years of experience, quite a number of progressive lime manufacturers have their plants equipped with kilns that are a great improvement over the kilns of a few years ago, but are not up to date or such kilns as are required to produce the largest quantity of lime at the lowest cost. It has been the plan until quite recently to build the main body of the kiln of stone and then make the extension or top part of the kiln of steel plates, lining this section with fire brick. A good many kilns have been made in this way, and are so arranged at the bottom with a brick receptacle or cooling space, from which the lime must be shoveled at each draw. A later improvement to this style of kiln was made by adding a large steel cooling cone suspended from steel beams, these beams being carried on the stone work and a space provided around the cone for the circulation of air. By the addition of this cone the lime can be drawn sufficiently cooled to be placed immediately in the cars or barrels.

However, this construction proved to be too cumbersome, on account of the great amount of space it required, owing to the quantities of stone necessary for a kiln of this type. The continuous demand and inquiry from the lime manufacturers for a more compact and better kiln led to the designing and invention of the Keystone Kiln, which is one of the best up-to-date lime kilns on the market today.

The manufacturers of the Keystone Continuous Burning Lime Kiln were engaged for years in the manufacture of iron work and steel plates for the early lime kilns, and it can be easily seen that the present Keystone is the product of years of experience on the part of the manufacturers, which has shown them just what is needed to produce the required results.

For further information, address Steacy, Schmidt & Co., York, Pa., who will be glad to go into the theory and practice of lime burning with you.

The Cement Tile & Machinery Company, of Waterloo, Iowa, has recently issued a little booklet called "Tile Talks," which contains a world of information for any one using tile of any kind for drains. It fully covers the laying of tile drains in all kinds of soil and explains the methods of getting the proper grades in ditches where the surface contour is uneven so simply that any one could apply them. If you are doing any drainage work you ought to write for this booklet, which will be forwarded to you free of charge. It contains a lot of useful information.

The Cosmo Lubricating Company, 9 to 15 North Ada Street, Chicago, are manufacturing a crusher oil that has a fire test of 1,200 degrees Fahrenheit and a viscosity two to three times greater than any other lubricating oil. This oil will absolutely prevent hot bearings and will keep them running stone cold, no matter how large the crusher nor how great the load. Crushers equipped with grease lubricating devices, this oil is made into a grease that has the same properties as the oil. This oil and grease have been used on numbers of crushers with signal success and are adapted to any kind of crusher, large or small. These lubricants are being used in all parts of the country, and the test the company are making is bringing them an excellent business.

The latest invention on the market, with improvements which it is claimed will do away with hand-troweling the old-fashioned way, on flat cement and concrete surface, is announced in the "Humane Double-Action Trowel."

The manufacturer's announcement, with illustrations, on another page shows, the principle on which this trowel finishes both ways and illustrates their claim that one man can do as much work in two hours with this trowel as a man can do in ten hours the old way, and do it better.



HUMANE DOUBLE-ACTION TROWEL.

This trowel has been demonstrated as most practical by contractors, who have been quick to appreciate its merits in various sections of the country, and full literature and prices will be promptly mailed if you say that you are a reader of this paper and will write to The Humane Horse Collar Company, Dept. B., Chicago Heights, Ill., or Dept. B, Omaha, Neb.

Good roads or improved highways are themselves the best answer to questions or arguments concerning their influence and effect upon territories and communities traversed by them. One result which nearly always follows road improvement is the great increase in value of real estate in the zone affected. They tend toward progress in a great many ways. It is already quite well established that about 90 per cent of the internal commerce of the country must be moved over dirt roads first or last, and that all industrial interests are affected by the nature and condition of the roads over which commodities are transported to their markets. Each citizen in every walk of life, city or country, who purchases merchandise, is directly affected by road conditions prevailing. Good roads will reduce the average hauling cost, which is said to be 25 cents per ton per mile in this country, 50 per cent or more—they have reduced the transportation costs in parts of Europe to as low as 7 cents per ton per mile.

Modern improved equipment that will permit rapid and economical construction is required in road betterment operations, and the cost of hauling the materials needed and used in road making does not always receive the careful attention and consideration it justly merits by those doing this kind of work.

The Troy Wagon Works Company, of Troy, Ohio, is one of the largest wagon and road working equipment manufacturers, and in a report of the Construction Service Co., of New York, which covers a careful investigation of four separate jobs on which Troy equipment was used, makes the owners' returns greater than any claims they have made for their product. This investigation was made to determine the relative efficiency of power hauling as compared with team work.

Troy Reversible Bottom Dump Wagons are designed and built especially for road building purposes, though they are also well adapted to many other kinds of hauling. They are for use in trains, usually four to eight wagons each, drawn by traction power. Steam traction engines are generally used, and best results have been realized where their power was about one rated horsepower per cubic yard of material hauled. In places where either the water or fuel supply militates against steam engines, the larger sizes of gasoline or oil tractors may be found satisfactory and minimize both these items. The wagons can, of course, be drawn by any kind of power; but there should be sufficient to handle a number of them to produce greatest savings or profits.

These wagons run equally well in either direction, and do not, therefore, require turning around for trips returning to source of supply—simply turn the engine, if any turning is required, and hitch it to the other end of the train. The wagons may be turned in a comparatively small space, but it is not at all necessary, and the reversible feature is not only convenient, but effects great saving of time, for an engine can be changed from one end of the train to the other in a very few minutes, and, if desired, all wagons could be unloaded and the gears put in condition for running in opposite direction

by the fireman while engine was being moved. Or, if the contractor does not want the engine and loaded wagons packing down the road material he has placed, after the engine has been changed to reverse end of the train, the wagons may be pushed whatever distance is required and the loads dropped off just where they are wanted, and without having the loaded train on the completed road.

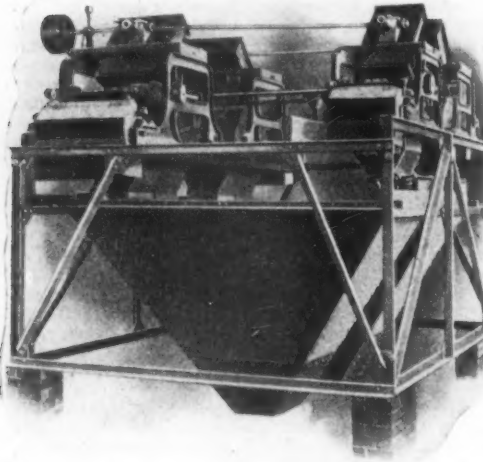
An entire train of Troy Reversible Wagons will trail or follow into any road, street, alley or opening into which the engine can be run, and may be taken or placed where it would be impossible for the engine to get a similar number of wagons of usual construction, for these can be either pulled or pushed. These wagon trains have sufficient flexibility to make them easily and economically handled.

We print an illustration of an improved and automatic weighing machine to weigh crushed and pulverized limestone, lime, cement and similar fine materials into bags, which is finding favor wherever introduced.

This machine is known as the Richardson Automatic Bagging Scale.

It may be built in any capacity, but the standard machine is of 100-pound capacity and is capable of weighing from four to six bags of 100 pounds each per minute, according to requirements.

The machine is built on a principle which ensures for it great accuracy and length of life. It has what is known as an equal armed weigh beam which supports at equal distances from the fulcrum a closed and sealed weight box in which standard test weights are placed for the quantity it is required



RICHARDSON AUTOMATIC BAGGING SCALE.

to weigh, and a weigh hopper in which the material is weighed. These two receptacles are arranged in weight so as to balance each other when empty, and when properly adjusted the same exact balance is secured on every weighing when the weight receptacle is loaded with weights, and the hopper with material.

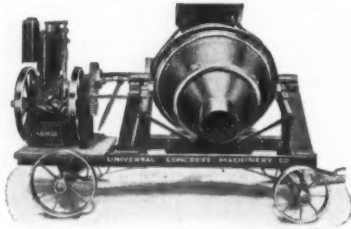
The supply is admitted to the weigh hopper from a feed chute in which a very novel and effective feeding device revolves and ensures an even feed. This feed chute is controlled by an under-cut gate, which automatically cuts off the supply at the proper moment. When the desired quantity has entered the weigh hopper, the beam balances and this can be discharged by the operator pulling a chain, or it may be set to work automatically, if required.

The contents are deposited through a guiding hopper or sacking spout into the sack. This sacking spout has suitable air vents, and is of such construction that it is absolutely impossible for material to adhere to the sides, and so cause an inaccurate discharge.

The scale proper has solid frames and is absolutely enclosed, so that the dust cannot escape. This construction makes it very easy on the operator, as the dust is kept inside and enables him to do his work better and faster.

Immediately underneath the sacking spout a revolving table is usually arranged, which is furnished complete with the scale. This is adjustable, working on a screw, the adjustment being according to the height of the bags. This turntable has six sections, so that it can hold six bags.

The mouth of the empty bag is placed on the sack spout, the bottom of the bag resting in one of the sections on the table. When this is filled the operator moves the table around and puts an-



UNIVERSAL CONCRETE MIXER.

other empty bag on the spout, and so on. Inasmuch as this table has a capacity of six bags, it so happens that each bag is on the table a period of one minute, and this in weighing cement and similar volatile materials allows the cement to settle in the bag to a very appreciable degree, so that the tier at the back can at once tie the bag without lifting or shaking it in any way.

It will be seen that there is no lifting of the filled bag by the scale operator, as the bag rests upon the table. The only work of the tier is to draw the mouth of the sack together and slip the string over it, and remove the filled sack from the table. Inasmuch as there is no necessity for much lifting of the filled bag or shaking of it to get the material to settle, this arrangement is very easy on the operator, and in practice it is found that one man at the scale and one man tying on the table can easily take care of four bags per minute continuously. The turntable is of very strong construction, and is fitted with grease cups to force out grit from the bearings.

The accuracy of the sale is exceedingly close. The cut illustrates the scale complete with a revolving table.

The machine is manufactured by the Richardson Scale Company, whose works are at Passaic, N. J., and who have offices at 3 Park Row, New York, and 122 Monroe street, Chicago.

The Universal Concrete Machinery Company, of Waterloo, Iowa, issues the following offer, which ought to appeal to anyone contemplating the purchase of concrete working machinery:

"You can have any of our machines on trial without even taking the risk of paying the freight. We will ship any responsible party any of our machines and if it proves unsatisfactory after a reasonable trial all you have to do is load it on a car and return it. We pay the freight both ways. Our machines cover every branch of the concrete industry, such as mixers of all kinds, drain tile machines, block machines, brick machines, crushers, gasoline engines, pier molds and many others too numerous to mention."

The stretching and breaking of rubber belting has been one of the objectionable features that the manufacturers and users of this class of belting have had to contend with for years. These objections seem to have been overcome in the "R. F. & C." solid woven and seamless rubber belting. In this belt the stretching has been reduced to the minimum, and the manufacturers claim that it is impossible for the R. F. & C. to split down the seams or open between the plies, as shown by the accompanying illustrations. This, they say, is due to the special weaving on looms built along scientific principles whereby the maximum of strength and minimum of stretch is obtained. After weaving the fabric is thoroughly impregnated with rubber to strengthen, toughen and preserve it against dampness, heat and cold. It is then coated with rubber so that close contact with the pulley may be obtained and full power transmitted. This method of solid weaving gives it greater pliability, therefore better pulley adhesion, and will, consequently, transmit more power than a stiffer belt of an equal ply. These two points of pliability and pulley adhesion are of great importance, and they claim a saving of over 20 per cent of motive power over other belt equipment. If you are from the state west of the river and want to be shown, take the matter up with W. H. Salisbury & Co., of



BELT SPLIT BETWEEN PILES.

Chicago, who will be glad to go into details with you.

Chalmers & Williams report that they have recently sold Kennedy Gyrotory Crushers to the following parties: No. 7½, Phelps, Dodge & Co., New York; No. 6, Rinehart & Dennis, Washington, D. C.; No. 3, Frisco Mines & Power Co., Kingman, Ariz.; No. 5, Pittsburg Contracting Co., Pittsburg, Pa.

These are only a few of many users of the "Kennedy," but they show that this crusher is well known all over the country and that it is a good machine backed up by a firm of live salesmen.

In February of this year the Dolese-Shepard Company of Chicago installed in their limestone quarry at Gary, Illinois, a Cyclone Blast Hole Drill fitted with electric power and a special outfit of tools suitable for drilling 5½" holes to an average depth of 40'.

The material being drilled is limestone of more than the average hardness; the total number of feet drilled from February 3rd to March 8th, inclusive, was 1623; number of hours worked 285; averaging 5.7 feet per hour.

No repairs were required on the machine or tools for the entire run, which shows a most remarkable record for speed and maintenance of machinery, since the many experiments which the quarry people have made with machines of the well driller type for drilling deep blast holes to the full depth of their quarries have fully demonstrated that this method of drilling and blasting is the most economical from every point of view and many quarry companies have adopted the plan exclusively.

Among the chief advantages of this method of blasting are a less number of linear feet to drill, a



BELT SPLIT ON SEAM.

less amount of explosive per cubic yard, material produced in much better condition for handling and for crushing a large amount of material, always available, no interference with men working in the quarry as is occasioned by frequent small shots, the charges may be so gauged that the material can be thrown out for hand loading or broken up and left standing for steam shovel work.

With all of these advantages, the well driller is a most profitable investment for quarry work.

The Austin Manufacturing Company, of Chicago, Ill., say:

We are pleased to report the following late sales of gyrotory crushers and crushing plants: Barretto & Co., Pernambuco, Brazil, No. 5 Austin crushing plant.

Director of the Board of Public Works, Pernambuco, Brazil, No. 6 crusher.

Ezell Mill and Stone Company, Newsom Sta., Tenn., No. 6 and No. 4 crushers, elevators, screens, friction hoist, quarry cars, etc.

W. J. Thompson, Sedro Wooley, Wash., No. 4 crushing plant.

Oshkosh Builders' Supply Co., Oshkosh, Wis., No. 3 crusher.

Apollo Lime and Ballast Company, Apollo, Pa., No. 6 crusher with suitable elevator and screen.

James O'Connor & Son, Kansas City, Mo., No. 4 gyrotory crushing plant.

The Washed Gravel and Sand Company, Dayton, Ohio, No. 6 gyrotory crusher.

E. H. Dierker, St. Charles, Mo., No. 4 crusher.

Jos. Rheume, Montreal, Que., Can., No. 7½ crusher, 60-ft. No. 7½ elevator, 48" diameter x 25 ft. revolving screen.

Fletcher Lahey Co., South Lawrence, Mass., No. 5 crushing plant complete.

H. E. Fletcher & Co., West Chelmsford, Mass., No. 5 crushing plant complete.

The Hartford Stone Co., Youngstown, Ohio, No. 5 crushing plant.

Canadian Pacific Railway Company, Whonnoek, B. C., No. 8 and No. 6 crushers, No. 3 standard elevator, 48"x10' screen, 40"x8' screen.

Southern Sand, Gravel and Supply Company, Columbus, O., No. 5 crushing plant complete.

The Universal Crusher Company, of Cedar Rapids, Ia., has sold a number of Universal crushers to various operators in the country. Among their recent sales are crushers for the Hawkeye Cement Tile Company, at Mason City, Ia.; Hammon & Sons, at Starces, S. D.; L. T. Kenney, Heyworth, Ia.

The Ingersoll-Rand Company is about to install a complete compressed air equipment for the Geo. W. Jackson Company, of Chicago, for their contract on section 54 of the Catskill aqueduct at Yonkers. The order covers compressors, drills, mountings and air reheaters.

The following notice has been issued to the trade

by the T. L. Smith Company, manufacturers of the "Smith Mixer":

"The general sales office of this company was moved on May 1 from 305 Old Colony Building, to the Majestic Building, Milwaukee, Wis. A local sales office will, however, be retained at 305 Old Colony Building, in charge of A. L. Tucker, district manager.

The Waterloo Cement Machinery Corporation, of Waterloo, Ia., has recently enlarged its plant to increase the capacity of its output in concrete machinery. The company under its able management has prospered in the past few years. The officers are: H. B. Lichty, president; F. T. Hartman, vice

president; F. J. Eighmey, treasurer; E. Duke Naven, secretary, and M. R. Evans, manager.

The Ernst Wiener Company, railroad and industrial machinery experts, issue the following notice from their main office in New York City:

"We beg to advise that we have opened new offices in the following cities: 38 North Sycamore Street, Petersburg, Va.; Ocala, Fla.; Toronto, Ont., Can.; Apartado 123 Bis, Mexico City, Mex. Furthermore, that we have changed the addresses of some of our other offices and the new addresses are herewith given: Los Angeles, 223 W. H. Hellman building; Philadelphia, 1103 Land Title building; San Francisco, 112 Market Street."

CLASSIFIED ADVERTISEMENTS

Advertisements will be inserted in this section at the following rates:

For one insertion 25 cents a line
For two insertions 45 cents a line
For three insertions 60 cents a line

Eight words of ordinary length make one line. Heading counts as two lines.

No display except the headings can be admitted.

Remittances should accompany the order. No extra charges for copies of paper containing the advertisement.

EMPLOYEES WANTED

WANTED.

If you are in need of or wish to sell anything which comes under any of these classifications, write us. If you have something not coming under these classifications we will create one for you.

PRACTICAL LIME KILN DESIGNER

Wanted. In consulting capacity or wishing to connect himself with engineering and contracting firm designing and installing lime kilns and entire lime burning plants. Address 755, care ROCK PRODUCTS.

THOROUGHLY CAPABLE OPERATOR

wanted for full charge of quarry and rock crusher. Address "X" care ROCK PRODUCTS.

ARCHITECTURAL DRAFTSMAN

wanted. Young man who can make working drawings from sketches and do good lettering and tracing. Permanent position, stating experience and salary expected in first letter. Address, Chas. Hilpertshauer, Sheboygan, Wis.

BUYERS AND AGENTS WANTED

to sell our concrete mixers and cement block fence post and brick machinery. Send for circulars and prices. Address, Keller Concrete Machine Co., Kearney, Nebr.

MAN AS SUPERINTENDENT AND MANAGER

wanted, of our cement block plant, situated in a thriving Long Island town. Grand opportunity for an enterprising young man with a little capital to invest, or would sell the plant and property of about 6 acres. Communicate with the Port Jefferson Cement Block Co., Port Jefferson, L. I., New York.

MAN WANTED

familiar with selling fluxing stone and lime products, to take charge of Pittsburgh district. Reply fully, Box No. 761, Care of ROCK PRODUCTS.

FIRST-CLASS KETTLE MAN

wanted, for plaster mill in Colorado. State experience, wages wanted and reference. Address, The Buckhorn Plaster Co., 504 Colorado Bldg., Denver, Colo.

EMPLOYMENT WANTED

Cement Salesman

Expert in the physical testing of cement, salesmanship and mail advertising, wants position with responsible company.

Write for interview.

Address 763, care of

ROCK PRODUCTS

TEN YEARS' EXPERIENCE

in operating quarries. Position wanted as general manager or superintendent. Will take an interest in the enterprise if permitted. Expert in every detail of the crushed rock business.

Address NO. 760, care ROCK PRODUCTS.

SUPERINTENDENT FOR CEMENT PLANT

Wants position in United States, Mexico or South America. Graduate chemist and familiar with mechanics. Directing chemist and asst. superintendent for over 14 years. Address 754, care ROCK PRODUCTS.

PLANT FOR SALE

WHITE LIMESTONE QUARRY

For sale. Patent kiln for burning limestone suitable for ore smelting and cement, covers about twenty acres. Quarry is situated about seven miles from Buffalo, one mile from the Grand Trunk railway, near Fort Erie, Ontario, Canada. Address

H. & E. BAXTER,
Fort Erie, Ontario, Canada.

WELL EQUIPPED PLANT

For sale. For the manufacture of hard brick and street pavers. Good shale, fire clay and operating coal mine on the property. Located on leading railroad in eastern Ohio. Fine opportunity for right parties. Address X. L., care ROCK PRODUCTS.

QUARRY PLANT. FOR SALE OR LEASE.

Fifty acre lime stone quarry fully equipped, on railroad, eleven miles from St. Louis. Thirty thousand dollars. Address F. W. STOLLE, East St. Louis, Ill.

LIME PLANT FOR SALE.

Owing to the death of the manager, one of the best paying lime plants in the South will be sold to settle the estate. Address "LIME," care ROCK PRODUCTS.

BUSINESS OPPORTUNITIES

FOR SALE OR LEASE.

Lime quarry and kiln on railroad in thriving district in Nevada. Apply to NEVADA HARDWARE & SUPPLY CO., Reno, Nev.

INDIANA QUARRIES TO LEASE

on yardage to reliable contractor owning 1,500 yard crusher. Unlimited rock of best quality. By recent supreme court decision millions will be spent on rock roads in Indiana. Write CHARLES E. WYMAN, Pekin, Ind.

FOR SALE.

Half interest and management if desired in well established brick and tile plant in Wisconsin city of 15,000. Lots of clay, face of bank 60 ft., perfect drainage, little top soil, sand bank adjoins. Burns 75% select rich cream color brick that meets government requirements. Tile of the best. Coal distributing point. Market by water and two railroads. Prosperous and growing trade. Cheapest place to manufacture in the state. Must build larger. Owners have other business. Address

INDUSTRIAL DEPT. 800 RY.,
Minneapolis, Minn.

PARTIES INTERESTED IN CLAY

that will make first-class fire brick, paving brick or pottery will do well to address INDUSTRIAL COMMISSIONER 800 LINE, Minneapolis, Minn.

THE BEAL CORE DRILL.

The best, cheapest and most effective core drill for testing quarries, coal and mineral lands. Borings made for foundations, records furnished of each test, of the foundations and cores taken out 3 or 4 inches in diameter to variable lengths. Any one wishing work of this kind done write me a postal card. Correspondence solicited. Address

EDWIN S. BEAL,
214 Woodlawn Ave., Lansing, Mich.

EASTERN LIME PLANT.

One of the best equipped in the United States. High calcium quarry running uniformly about 98% pure. Will sell outright or retain substantial interest in connection with well qualified parties and conduct the sales department in markets well established already. Fuel cost, labor and all other details of the lime business well adjusted to production. Plant now running and in first class condition in every particular. Address BOX 762, care ROCK PRODUCTS.

CEMENT WALKS, BUILDINGS, ETC.

Cement sidewalk construction: making concrete blocks and buildings; estimating, profits, etc. Practical book of details, postpaid, 50c. Address, DeGraff Pub. Co., Peoria, Ill.

CAPITAL WANTED

to reorganize a stock company and develop the best high calcium lime and rock proposition in New York state—70 acres. Deposit practically inexhaustible: 20 rods from New York Central R. R. Summit 200 feet above water level. Conditions ideal for rotary kiln plant. Electric power obtainable. Thorough investigation desired. Address correspondence

"W. R. L. CO.," care ROCK PRODUCTS.

LIME MANUFACTURERS

who want to keep their kilns in full operation can turn over part or all of their output to an organization equipped to sell their product. Connections may be made by those who produce high grade lime and guarantee to fill orders promptly.

Address, No. 759, Care of ROCK PRODUCTS.

PROPOSALS WANTED.

PROPOSAL TO ERECT HOSPITAL BUILDING.

Sealed proposals will be received at the office of John S. Brown, Chairman of Building Committee, Monmouth Hospital Association, in Second National Bank Bldg., Monmouth, Ill., until 12 M. of Tuesday, June 14th, 1910, for the work of the general contractor in the erection of a Hospital Building in Monmouth, Ill., according to the plans and specifications prepared by Meyer J. Sturm, Architect.

Each proposal is to be submitted on a blank form obtained from the Architect and must be accompanied by a certified check to the amount of 10 per cent of the amount of the proposal, made payable to the order of John S. Brown, Chairman; the check of any bidder shall be forfeited to the Monmouth Hospital Association in case he fails to furnish a bond within ten days and to enter into a contract if same is awarded to him.

Drawings and specifications can be seen at the office of John S. Brown, Chairman of Building Committee, Second National Bank Bldg., Monmouth, Ill., or at the office of the Architect, Meyer J. Sturm, 84 La Salle St., Chicago, Ill., after May 14th, 1910.

The right is reserved to reject any or all bids. By order of the Board of Directors, Monmouth Hospital Association.

JOHN S. BROWN, Chairman,
E. A. LORD,
E. L. MITCHELL,
Building Committee.

Monmouth, Ill., May 12th, 1910.

PROPOSALS FOR HEATING APPARATUS, ELECTRIC WIRING AND PLUMBING.

Separate sealed proposals will be received at the office of John S. Brown, Chairman of Building Committee, Monmouth, Ill., until 12 M. of Tuesday, June 14th, 1910, for the heating apparatus, for the electric wiring, and for the plumbing of a new Hospital building, to be built in Monmouth, Ill., according to the plans and specifications prepared by Meyer J. Sturm, Architect.

Each proposal is to be submitted on a blank form obtained from the Architect and must be accompanied by a certified check to the amount of 10 per cent of the amount of the proposal, the check to be made payable to John S. Brown, Chairman; the check of any bidder shall be forfeited to the Monmouth Hospital Association in case he fails to furnish a bond within ten days and to enter into a contract if the same is awarded to him.

Drawings and specifications can be seen at the office of John S. Brown, Chairman, Second National Bank Bldg., Monmouth, Ill., or at the office of Meyer J. Sturm, Architect, 84 La Salle St., Chicago, Ill., after May 14th, 1910. The right is reserved to reject any or all bids.

By order of the Board of Directors of the Monmouth Hospital Association.

JOHN S. BROWN, Chairman,
E. A. LORD,
E. L. MITCHELL,
Building Committee.

Monmouth, Ill., May 12th, 1910.

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Changes of Copy

Must be in this office by the Fifteenth of the month, if proofs are desired; if no proofs are required the desired changes can be made if copy is received by noon of the Nineteenth.

New Advertisements

To insure proper classification, should be in this office by the Fifteenth of the month, but they can be inserted in the last form going to press if received by the Nineteenth. The punctual publication of the paper admits no deviation from these rules. Advertisers are earnestly requested to co-operate with us.

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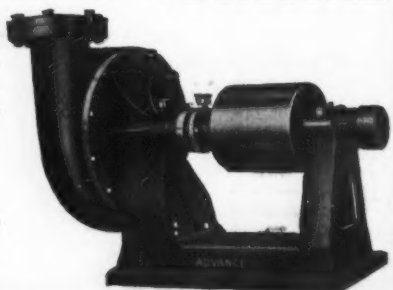
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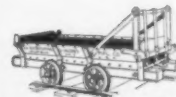
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TUBE MILLS.

Aising, J. R., Eng. Co.
Power & Mining Machy. Co.

WATER PROOFING.

Aquabar Co., The.
Barrett Mfg. Co.
Carolina Portland Cement Co.
Ceresit Waterproofing Co.
De Smet, George W.
Marblehead Lime Co.
Maumee Chemical Co.
National Water Proof Co.
Wadsworth, Howland & Co., Inc.
Wisconsin Lime & Cement Co.



A SQUARE DEAL READ OUR PROPOSITION.

work. All we ask you to do is to give it the stiffest 5 days' trial that you know how to put it through—then if it **doesn't** make good (but it will), send it back—charges collect—and well, let you alone. Isn't that a fair enough proposition? We'll stake our trouble against yours and take the "chance" of a failure. Think it over—but not too long. Better ask for a catalog now.



MILWAUKEE CONCRETE MIXER and MACHINERY CO.

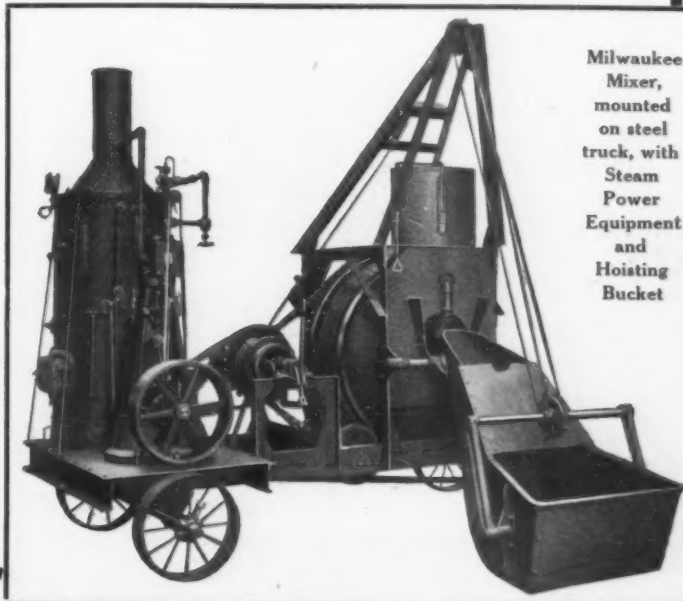
MILWAUKEE, WIS.
Representatives Wanted in Unassigned Territory

Here's a Concrete Mixer that makes good in every sense.

By that we mean that it mixes a uniform batch—thoroughly—quickly—without fuss or unnecessary work. That it runs smoothly (all the time) and stands the gaff. Has a drum that does the work the way it ought to be done, without **clogging, slopping, balling or blocking.**

OUR PROPOSITION:

It will cost you nothing to investigate the Milwaukee Mixer. We'll pay the freight to land one of these mixers at your



Milwaukee
Mixer,
mounted
on steel
truck, with
Steam
Power
Equipment
and
Hoisting
Bucket

Breakdown Jobs

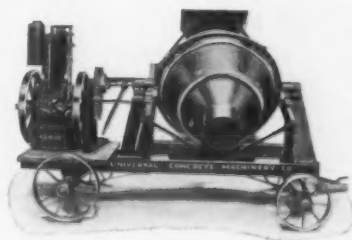


are right in our line. Carrying an immense stock of blanks, we can fill your order at once.

*If in a hurry,
wire us.*

Nuttall — Pittsburg

WHY TAKE CHANCES

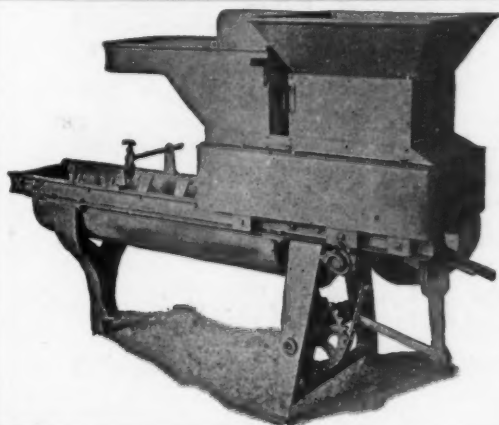


When you can have any of our machines on trial without even the risk of paying freight?

Mixers of all kinds,
Drain Tile Machines,
Block Machines,
Brick Machines,
Stone Crushers,
Gasoline Engines,
Pier Molds, Etc.

ASK FOR CATALOG "RP"

UNIVERSAL CONCRETE MACHINERY CO.
Corner 4th and Commercial Streets, Waterloo, Iowa



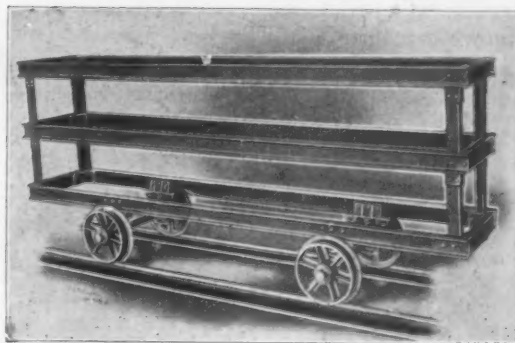
"KENT" CONTINUOUS MIXER

"The Mixer that measures and Mixes"

"You fill the Hopper, the Mixer does the rest!"

Simple, reliable, economical, durable and moderate in price

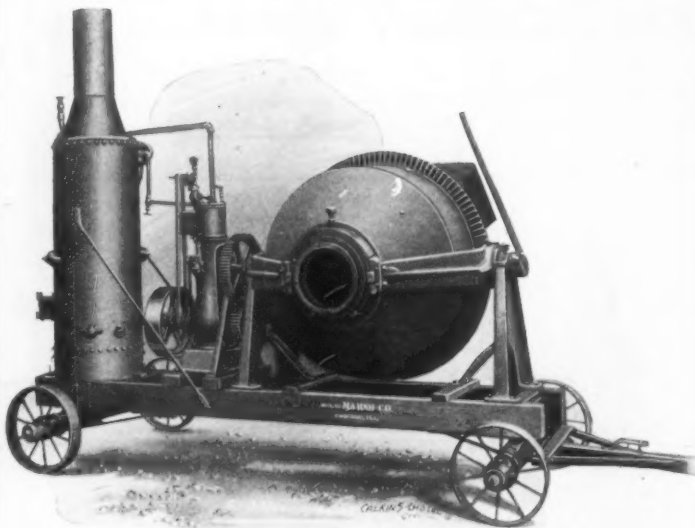
Write for Catalogue and Prices to
The Kent Machine Co.
306 N. Water St., Kent, O.



The "KENT" Block Cars, Transfer Cars, etc.

Tell 'em you saw it in ROCK PRODUCTS

Marsh Up-to-Date Line of Mixers



MARSH-DEXTER—Best and Simplest Tilting Mixer.

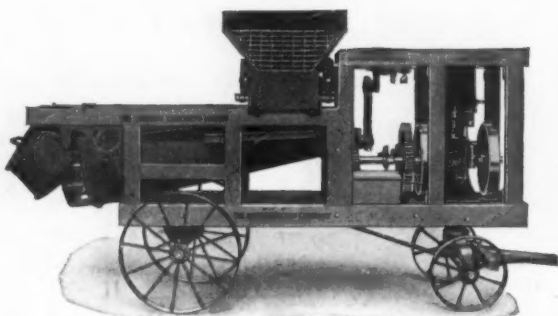
MARSH'S MIXERS comes nearest of meeting all the requirements of all conditions met in actual use.

Different types to meet varying conditions.

MARSH-CAPRON MFG. CO.

990 Old Colony Bldg.

CHICAGO, ILL.



Save 25 per cent in the cost of mixing concrete by using an

Improved Coltrin Mixer

It requires less men and less power to operate than any other mixer on the market today.

Two new features are the hood on the discharge and the automatic regulator for proportioning the materials.

We ship these mixers on approval for five days' trial.

For prices, etc., address

N. J. MOREHOUSE

Box 277.

BELLINGHAM, WASH.

THIS IS OUR LATEST 1910 MODEL.

LET US EXPLAIN ITS MERITS.

G. A. MOREHOUSE, Representative of the Middle West,
Belvidere, Neb.

IT DOES PAY!

THE Marsh Co., whose offices are located in the Old Colony Bldg., Chicago, have advertised in **ROCK PRODUCTS** continuously from the time of their first starting in business. Read Mr. Geo. Marsh's statement concerning results obtained.

Chicago, Ill., Oct. 21, 1909.

The Francis Publishing Company.

355 Dearborn Street, Chicago, Ill.

Gentlemen:—

The writer of this letter has known your paper, **Rock Products**, from its first issue. As you will doubtless remember when you started this paper the writer was Manager of the Crusher Department for the Gates Iron Works, later Allis-Chalmers Co. While with that company we used **Rock Products** for our crushing machinery, as you will remember, quite extensively. Later when the Manager for the Contractors Supply and Equipment Co., the writer used your paper for advertising our concrete mixers and other contractors and quarry machinery. Since this company was organized, we have used it for our crusher and mixer.

It gives us pleasure to testify that for putting anything before the trade that you reach, we have never used anything which gave better results. The number of bona fide inquiries which led to eventual sales was remarkably great.

It has always been a great advantage to us that your representatives have been so wide awake in looking out for our interests as we suppose they do with other advertisers' interests, in traveling about the country, and I can recall a number of sales that came directly through pointers given by you to us from information received on the road.

You need not have any hesitancy in referring any doubtful inquirer to us in regard to the value of your advertising columns.

Very truly,

MARSH CO.

Per (Signed) G. C. Marsh.

**It has paid Mr. Marsh
It will pay you.**

There are others of whom similar information may be obtained. A great number of them. We will tell you about them later.

Rock Products

355 Dearborn Street,

CHICAGO

Tell 'em you saw it in **ROCK PRODUCTS**

ALLIS-CHALMERS CO

Style "K" Rock and Ore Breakers

NO CLOGGING

The stone spouts directly from the hopper into the opening between the head and the concaves. This arrangement enhances the feeding capacity and overcomes the tendency to arch and prevent wear on spider.

Have Large and Unobstructed Feed Openings

NO LOSS WORKING TIME

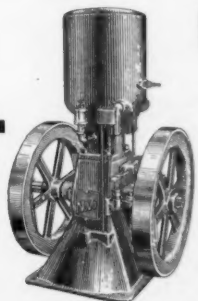
The hopper rests directly on the top of the shell, near the upper ends [of the concaves, thus reducing the height of breaker from foundation to feeding floor.



Built to Meet
Operating Conditions

GENERAL OFFICES:
Milwaukee, Wis.

District Offices
in all Principal Cities



2½, 3½ and 5 H. P.

Sudden and Irregular Demands for Power
Are What Test "The Metal" of an Engine

NOVO

Gasoline
ENGINES

are so built and adjusted that they will not "go dead" when suddenly overloaded, but quickly recover from any extra demand for power. This feature alone makes the Novo an ideal power producer for running Cement or Concrete Mixers or Stone Crushers. But there are many other superior points.

The Novo Engine is strong, rigid and has all parts accessible. It is self contained and has

No Tank, No Fan, No Fixtures
and is

Guaranteed Frost Proof

The Novo is light and compact, yet durable and powerful, easily and quickly put in operation and always pulls more than promised.

You should know all about this best of all gasoline engines. Write today for the Novo Engine Book. It's free and full of engine information.

Hildreth Mfg. Co.

101 Willow St.,

Lansing, Mich.

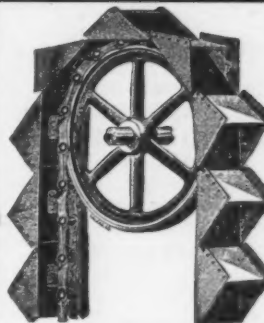
FARREL ORE AND ROCK CRUSHER

USED IN ALL PARTS OF THE WORLD—LARGE RECEIVING CAPACITY—SPECIALLY DESIGNED AND CONSTRUCTED FOR HARDEST KIND OF WORK
COMPLETE CRUSHING PLANTS OUR SPECIALTY

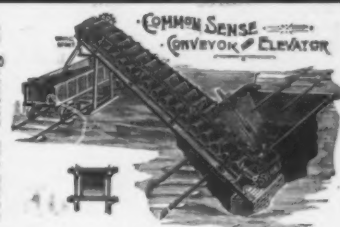
• SEND FOR CATALOGUE •

EARLE C. BACON, ENGINEER.

FARREL FOUNDRY & MACHINE CO. HAVEMEYER BUILDING, NEW YORK



Send for Catalog 25



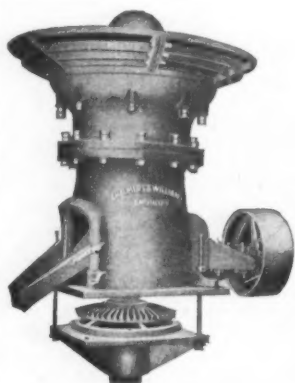
THE GENERAL CRUSHED STONE CO.,

So. Bethlehem, Pennsylvania,

have been using one of our Common Sense Elevators for six years—
capacity 400 tons an hour.

THE C. O. BARTLETT & SNOW CO. CLEVELAND, OHIO.

Tell 'em you saw it in ROCK PRODUCTS.



The Kennedy Gyratory Crusher

THE ONLY CRUSHER

With a Ball and Socket Self-Aligning Eccentric

This crusher is proving its superiority over all other makes of crushers in all parts of the country. We can give interesting data from operators, regarding the greater capacity, small cost for repairs, perfect alignment, great reduction in power to operate and perfect coolness of the eccentric.

We also Build Cement Making Machinery

Kilns, Dryers, Coolers, Crushing Rolls, Ball Mills, Tube Mills, Elevators, Conveyors and Revolving Screens.

CHALMERS & WILLIAMS, Inc., 1929 Commercial Nat'l Bank Bldg., CHICAGO



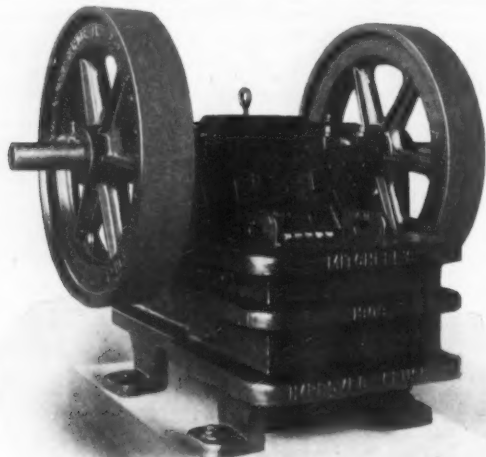
HOWELL'S Celebrated Ball Bearing Heavy Geared Post Drills

For boring anything that an Auger will penetrate.

Awarded Gold Medal, St. Louis.

We make 40 different styles machines run by Hand, Compressed Air and Electricity for boring Fire Clay, Coal, Rock, Rock Salt, Gypsum and Plaster Rock. Send to day for our handsomely Illustrated Catalogue.

HOWELL MINING DRILL CO., PLYMOUTH, PA. U. S. A.
(ESTABLISHED 1878.)



20 DIFFERENT SIZES

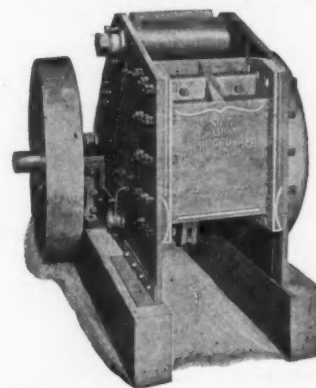
Mitchell's Improved Crusher

reduces any refractory material from 4 inch size to any size desired down to sand in one operation. It is instantly adjustable while running. You will appreciate the convenience and money-saving of this operation if you understand crushing problems.

There is no crushable substance too hard for the No. 3 Mitchell Improved. It's a rock crusher built with rock-like solidity. Ten minutes with our pamphlet "Mitchell Improved Crushers and what they will do" explains all these features. Send a postal for it.

EUREKA STONE & ORE CRUSHER CO.

Cedar Rapids, Iowa



No. 5 Champion Steel Rock Crusher, 11x26 in. Opening.

Speaking of ROCK CRUSHERS

there are over 3,000 Champion Machines in use. Every machine is speaking for us by the good work it is doing.

Champion Crushers are made of steel. They work well and last well. We offer them as the best and most economical crushers made.

Five different sizes, from 75 to 300 tons daily capacity. Elevators, screens, conveyors, engines, boilers. Complete plants installed.

HANDSOME CATALOGUE FREE ON APPLICATION

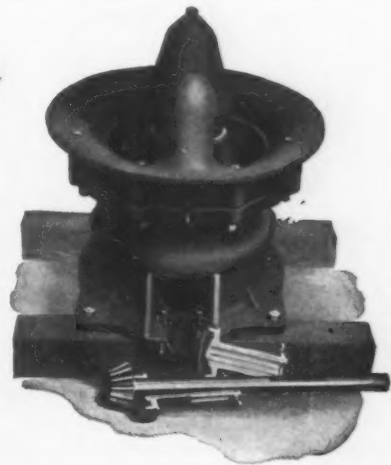
The Good Roads Machinery Co.
KENNETT SQUARE, PA.

Tell 'em you saw it in ROCK PRODUCTS

You Are Seeking

and every crusher man has long sought for a rock crusher combining the continuous crushing movement, large capacity, uniform product and durability of the old-line gyratory breaker, with the advantages of low feed and reduced weight. These features are found in one machine and in only one—the

Symons Crusher



HEIGHT—The Symons No. 5 measures 3 ft. 9 in. from sills to rim. **WEIGHT**—The Symons No. 5 weighs 17,000 lbs. **STRENGTH**—The short stocky frame, the thick, three-arm bottom spider, the heavy crown and the great central bolt, clamping frame and crown together,—all guarantee a degree of strength unattainable in crushers of the lever-shaft type. **DURABILITY**—The long eccentric bearings, dust proof and automatically oiled—the absence of the suspension bearing—the simplicity of the entire machine—these features guarantee reliable and economic operation under the severest conditions. Write for Catalog.

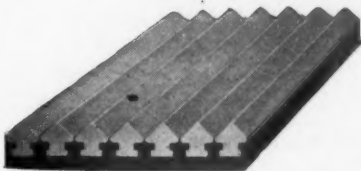
The T. L. Smith Company

Majestic Bldg., Milwaukee

Old Colony Bldg.,

Chicago

A Tempered Steel Jaw Plate for Blake Type Crushers



Canda Tempered Steel Crusher Jaw Plate

Patented March 31, 1908

CHROME STEEL WORKS

CHROME, N.J., U.S.A.

(FORMERLY OF BROOKLYN, N.Y.)

☞ The Canda Tempered Steel Jaw Plate for Blake Crushers is composed of Forged and Rolled Chrome Steel Bars, cast-welded and also mechanically interlocked into a backing of tough steel—and the wearing face is tempered to extreme hardness. We are equipped to supply both corrugated and smooth face plates for all sizes and makes of Blake Crushers.

☞ The Canda method of cast-welding forged and tempered steel bars into a mild and tough Steel Backing, is adapted also to the construction of Cone Heads for Gyratory Crushers, Segments for Corrugated Rolls, etc., etc.

☞ Our products in this line are sold with our special guarantee that they will wear longer, give better satisfaction and, at our price, prove more economical than any others now on the market.

— Send for Descriptive Pamphlet —

Represented by

J. F. Spellman, 202 Century Building, Denver, Colo.

George T. Bond, Easton, Pa.

George W. Myers, San Francisco, Cal.



AUSTIN GYRATORY CRUSHER

The World's leading rock and ore breaker.

The only self lubricating Crusher.

The only Crusher having double countershaft bearing.

Simple construction, correct design.

Thousands in use.

Plans and specifications furnished for any sized plant.

Send for Catalogue No. 17.

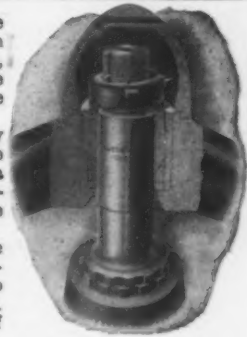
All experienced users recognize that the efficiency and durability of the suspension bearing as applied to Gyratory Crushers, depends upon locating the bearing at the point of least gyration or movement of the main shaft.

A perfect suspension can be made only by locating the bearing at the point where there is no movement of the shaft. That being a mechanical impossibility it follows that superiority is obtained in fixing the bearing at the point of least gyration of the shaft.

As the accompanying cut will show, the movement of the shaft at the point of suspension in the Austin Crusher is reduced to the minimum and practically eliminated. Consequently the highest possible degree of efficiency and durability is obtained.

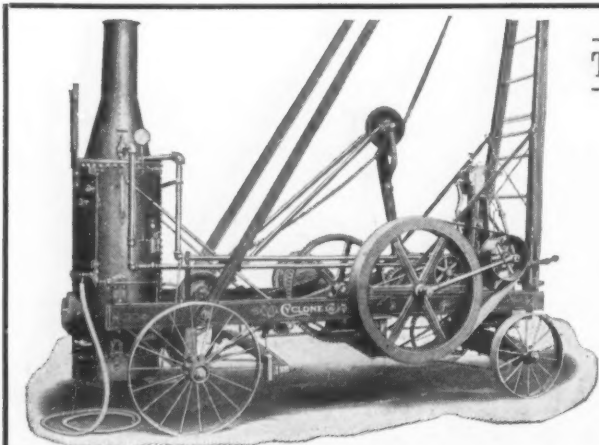
Austin Manufacturing Co., Chicago

Mussens Ltd., Montreal, Can., Canadian Sales Agents.



New York City Office
1682 FULTON BUILDING
Hudson Terminal

Tell 'em you saw it in ROCK PRODUCTS



THE CYCLONE **WINS** BY BIG ODDS

The Competitive Drilling Test

just finished at the Dolese-Shepard Company's quarry at Gary, Illinois, has proven the superiority of Cyclone Drills, finishing far ahead of any of the six drills in the test. Total number of feet drilled, 1595; drilling 5 ft. 10 in., per hour, or 1 ft. 6 in. more per hour than the highest record of any other machine. Holes were all 5½ inches diameter in hard lime-stone rock; not one penny was spent for repairs of any character.

This is just another record of the many which the Cyclone Drill has to its credit; let us tell you more about Cyclone Drills and their records.

WRITE US TO-DAY—DEPT. "C"

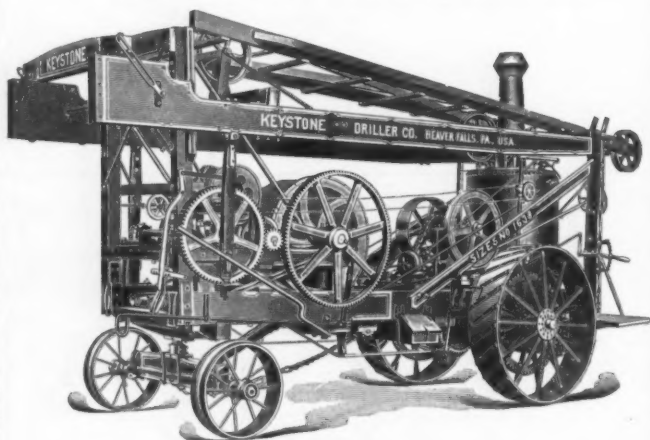
THE CYCLONE DRILL COMPANY,

ORRVILLE, OHIO

CHICAGO OFFICE—419 Fisher Bldg.

NEW YORK OFFICE—1456 Hudson Terminal Bldg.

For Big Blast Holes **KEYSTONE CABLE DRILLS**



Catalog No. 4

Keystone Traction Drill Co.

Monadnock Bldg.,
CHICAGO

BEAVER FALLS, PA.,
170 Broadway, New York

CARTHAGE,
MISSOURI

WATCH

your present maintenance costs—
then install

Tisco Manganese Steel Crusher Parts

and you will appreciate the wear
resisting properties of this steel
and be surprised at the economy
you find.

Ask for Bulletins 104 or 105.

TAYLOR IRON & STEEL Co.
High Bridge, New Jersey



Deep Blast Hole Drilling

Is accomplished more economically than by any other method with the

"American" Drilling Machines

There is 40 years' experience behind these drills—they are standard.

Where electric power is available, equipped with motor they form the most portable and economical drill for quarry use.

Equipped with any power they are backed by the experience and reputation of the world's oldest and largest builders of this kind of drilling machinery.

Tell us your blast hole requirements. We have 59 regular styles and sizes of machines for your selection, made in types to meet every possible condition of work.

Write for our new catalog No. 105, the most complete "Drill-Hole" catalog ever issued.

THE AMERICAN WELL WORKS

General Office and Works: AURORA, ILL., U. S. A. Chicago Office: First National Bank Building

Tell 'em you saw it in ROCK PRODUCTS



"LITTLE GIANT" LOADING BLASTED ROCK.
Diamond Portland Cement Co., Middlebranch, O.

Giant Boom Shovels, six sizes, $1\frac{1}{2}$ to 5 cubic yard dippers. **Little Giant Shovels**, two sizes, $1\frac{1}{4}$ cubic yard dippers. **Revolving Shovels**, three sizes, $\frac{3}{4}$ to $1\frac{1}{2}$ cubic yard dippers. **Steam or Electric Power. Traction Wheels or Railroad Trucks.** Send today for booklets.

VULCAN

Steam and Electric Shovels

are the best that money can buy because they are correctly designed and substantially built. Every part is made of material which we know from our **thirty years' experience** in high class steam shovel building to be the **best for the purpose**. Before shipment each shovel is **set up complete** in our yards, **thoroughly tested under full steam** and all parts **carefully inspected and adjusted**. You are invited to witness this test and the shovel isn't shipped until **both of us are satisfied** that it is right in every respect. In addition to this, we give you the benefit of a **10 day trial test in your own quarry** and you don't have to accept the shovel until we have **demonstrated on your own work** that it is just as represented. Every shovel we build is covered with an **iron clad guarantee** to give complete satisfaction. Write us today, giving a description of your material and the amount you wish to handle per 10 hours and we will promptly send full information, specifications, prices, etc., of a shovel which we will guarantee to do your work satisfactorily.

THE VULCAN STEAM SHOVEL CO.

Toledo, Ohio

NEW YORK OFFICE: 45 Broadway;
Telephone 4039 Rector

DENVER OFFICE:
305 Appel Bldg.

CHICAGO OFFICE: 1301-2-3 Great Northern
Bldg.; Telephone Harrison 2838

TRADE
MARK

GENUINE

TRADE
MARK

MANGANESE STEEL

Parts for all makes of crushers

JAWS, CHEEKS, TOGGLES and BEARINGS
Concaves, Wearing Plates, Heads, etc.

STEAM SHOVEL TEETH, POINTS and BASES
Lips for Gold Dredges and Steam Shovel Dippers
Chutes, Grizzlies, Pins, Bushings, etc.

Bevel and Spur Gearing for Steel Mills, Cement Plants
KOMINUTER PLATES

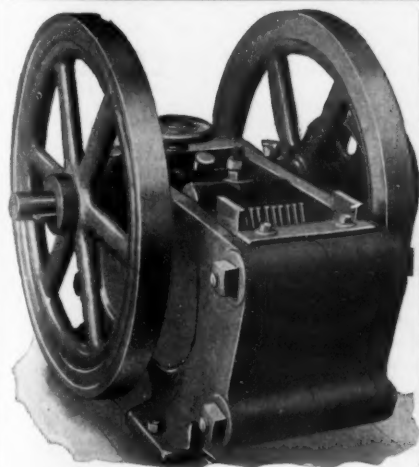
Revolving Screens or Trommels

Mine Car Wheels Roll Shells Grizzly Bars

AMERICAN BRAKE SHOE AND FOUNDRY CO.

30 Church St., New York

McCormick Bldg., Chicago



X=L-ALL STONE CRUSHER

Save Money by Crushing and Using Your Screenings.

Our Crusher is the Right Size and Right Price.

Write for a Catalogue.

X-L-ALL MFG.CO.

621 South Clinton St.
CHICAGO

Manufacturers of Ferguson
Cement Tile Machines, Block
and Brick Machines, Etc.



95-C IN SANDUSKY PORTLAND CEMENT COMPANY'S QUARRY

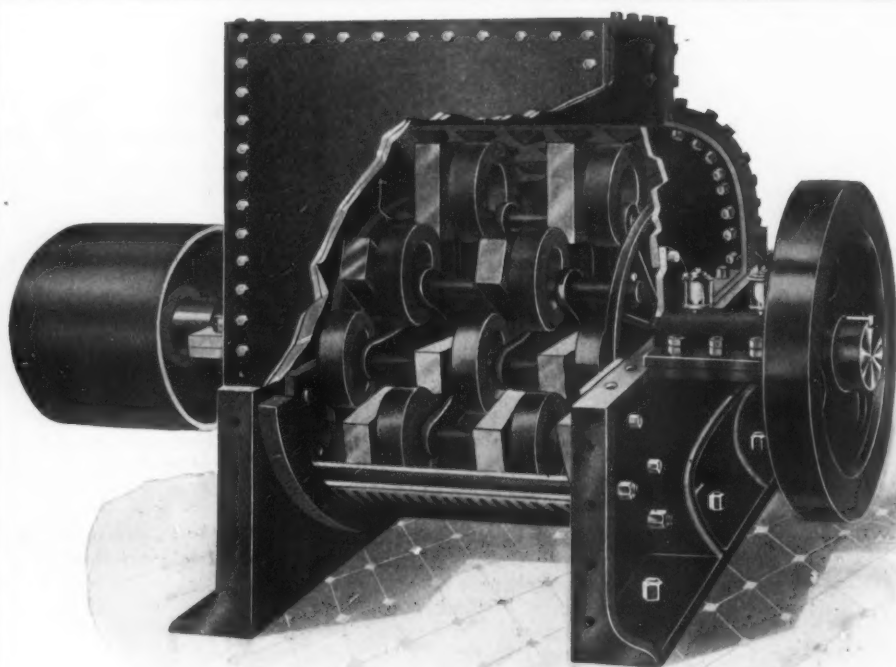
Bucyrus Shovels Are Loading Crushed Stone and Digging Blasted or Unblasted Cement Rock in the Leading Quarries in the United States.

THE BUCYRUS CO.

Branch Offices
NEW YORK
SAN FRANCISCO

Main Office & Works:
South Milwaukee, Wis.

Tell 'em you saw it in ROCK PRODUCTS



**Pulverize Your Lime-
stone, raw or burned,
Sandstone, Pebbles,
Brick Bats, Quartz, etc.**

The Winchester Granite Brick Co., Winchester, Ky., write us they have pulverized 20,600 tons of Sandstone blasted from the Mountain Side at a maintenance cost of \$79.00—and are still grinding. The above machine is doing the business.

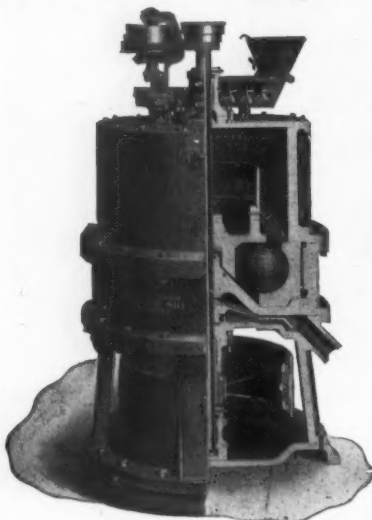
**Made in Six Sizes.
All Guaranteed.**

30 days' operating test at your works.

Write for circulars, price, etc.

AMERICAN PULVERIZER COMPANY
410 Jaccard Bldg., ST. LOUIS, MO.

The Fuller-Lehigh Pulverizer Mill



Cement Companies equipped with Fuller Mills advertise the fact that the consumer gets 38 pounds more of the IMPALPABLE POWDER or REAL CEMENT in every barrel of cement produced by The Fuller Mill than by any other

Produces Commercially

Cement having a higher percentage of Impalpable Powder than can be obtained by any other mill. Tests show that the tensile strength of a 1-5 mortar made with cement pulverized by the Fuller Mill is higher than the tensile strength of a 1-3 mortar made with cement pulverized to the fineness required by the Standard Specifications.

Lehigh Car, Wheel & Axle Works

Main Office: CATASAUQUA, PA.

New York, N. Y.

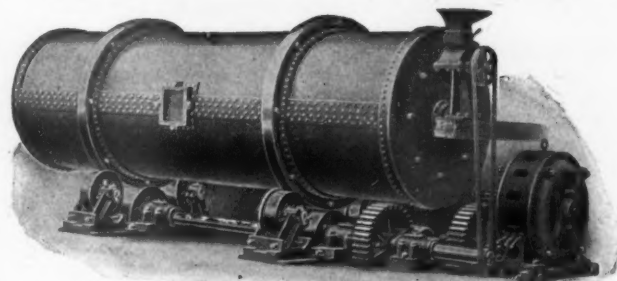
Kansas City, Mo.

Hamburg, Germany, Alsterdamm 7.

ALSING TUBE MILLS

AT THE FOUNDATION

THE BEST for SAND LIME BRICK



Ores, Minerals, Chemicals, Cement, Etc.

A saving in power of 30 per cent guaranteed. Almost same power to start as to operate. Continuous feed and discharge. Produces 75 to 90 per cent Perfect Face Brick. HALF A MILLION White Silica in new Philadelphia Opera House.

THE SECRET OF SUCCESS.

The two Model and Most Modern Plants (The Penbryn Brick Co., Penbryn, N. J.; Cranford Paving Co., Washington, D. C.) USE OUR Tube MILL and Crushing Device.

J. R. Alsing Engineering Co.

Incorporated 1885.

E. F. ABBE, Pres't.

Founded 1869.

136 Liberty Street, New York.

Tell 'em you saw it in ROCK PRODUCTS

GRINDING Mill Capacity is greatly increased, often doubled, by prompt removal of the fines as fast as formed.

In the old method of operation, the fines were fed in with the coarse particles, cushioning the crushing action, and retarding the whole operation.

Osborne Pneumatic Apparatus removes the fines continuously, leaving the coarse particles for further reduction.

An Osborne Apparatus costs much less than a double equipment of grinders. Shall we send our catalogue?

Better ask for catalogue of Reilly Multicoil Feed Water Heaters at the same time.

The Griscom-Spencer Co.

90 West Street, New York

OVER TWENTY-ONE CENTS A TON SAVING IN GRINDING COAL

By Using

THE RAYMOND ROLLER MILL

The following figures are not theoretical but were given us direct from the cost records of one of our customers who makes cement.

During and previous to 1906 they used Hammer and Tube Mills for grinding their coal. Beginning with 1907 they used Raymond Roller Mills. Here are their figures:

	1907 Raymond Mill	1906 Hammer and Tube Mill
Operation, cost per barrel	\$.008	\$.015
Repairs, cost per barrel	.004	.0175
Total	\$.012	\$.0325

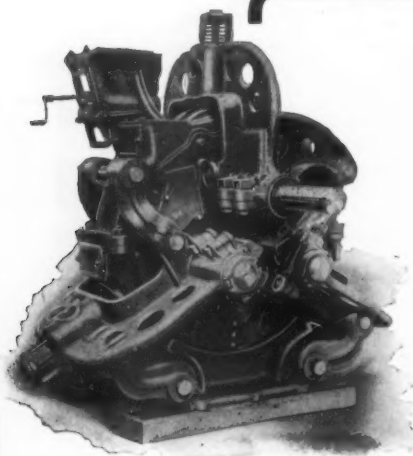
Saving per barrel \$.0205

For more than 200 customers, in different lines, grinding all kinds of material, we have given similar results. Can you afford to ignore that record? It will cost you nothing to talk to us. Ask us for further information.

Raymond Brothers Impact Pulverizer Company

517 Laflin Street, CHICAGO

Tell 'em you saw it in ROCK PRODUCTS



MAXECON

Means MAXimum of ECONomy

Years of experience with the assistance of our hundreds of customers has found THE SOLUTION OF GRINDING HARD MATERIALS. The MAXECON PULVERIZER combines highest EFFICIENCY, greatest DURABILITY and assured RELIABILITY. Uses the LEAST HORSE POWER per capacity. Embodies the features of our Kent Mill with improvements that make it MAXECON.

WE DO NOT CLAIM ALL of the CREDIT for this achievement

We have enjoyed the valuable suggestions of the engineers of the Universal Portland Cement Co. (U. S. Steel Corp.), Sandusky P. C. Co., Chicago Portland C. Co., Marquette Cement Mfg. Co., Western P. C. Co., W. H. Harding, Prest., Coplay P. C. Co., Cowham Engineering Co., Ironton P. C. Co., Alpena P. C. Co., Castalia P. C. Co., Pennsylvania P. C. Co., and many other patrons.

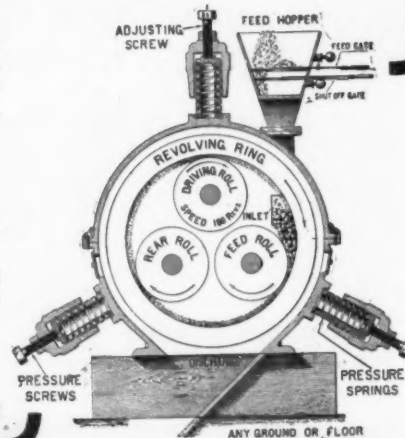
THE RING WOBBLES

The FREE WOBBLING POUNDING RING instantly and automatically ADAPTS its position to the variations of work.

Its GRINDING ACTION is DIFFERENT than any other; besides the STRAIGHT rolling action of the rolls, the SIDE to SIDE motion of the ring makes the material subject to TWO crushing forces and DOUBLE OUTPUT results.

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AN EXPENDITURE, NO MATTER HOW TRIVIAL, IS THE ESSENCE OF EXTRAVAGANCE, IF IT BRINGS NO RETURNS

If you are from **Missouri** or any other state we can show you that in using **Sawyer Belts** you can make \$2.00 grow where \$1.00 grew before.

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"JUMBO" STEEL PAN CONVEYORS



Showing our "JUMBO" type of Conveyors carrying Crushed Stone at the Porto Bello Plant of the Isthmian Canal Commission, Panama. See our 672-page catalog of Conveying and Screening Machinery.

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AURORA, ILL.

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Rubber Belting Troubles Overcome

Every difficulty heretofore met with in the use of rubber belting entirely eliminated in

"R. F. & C." (Rubber Filled and Covered) Solid woven rubber belting.

Ask us for sample and further information.

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A COMPARISON

deal longer than leather belting. In fact we are very much pleased with your belting and it has given us first class satisfaction in every respect, except on motors, where it is of no use. With best wishes, we are,

The Gandy Belting Company, Baltimore, Md.
Gentlemen—We are in receipt of your letter of Dec. 21st, and referring to our conversation of the other day would say that the writer of this letter is of the opinion that your belt is superior to the leather belts sold at the present day, in the fact that they stretch very little, and when stretching stretch uniformly, so that the edges are always true and straight. We also have found that the life of your belting is a great deal longer than leather belting. In fact we are very much pleased with your belting and it has given us first class satisfaction in every respect, except on motors, where it is of no use. With best wishes, we are,

THE W. O. HICKOK MFG. CO.

One more reason why "The Gandy Belt" is the belt for driving, elevating and conveying. One-third the cost of leather and 25 per cent cheaper than rubber. Send for our free book "Experiences with the Gandy Belt."

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Special Designs for Special Purposes

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Solid Woven Waterproof Belting

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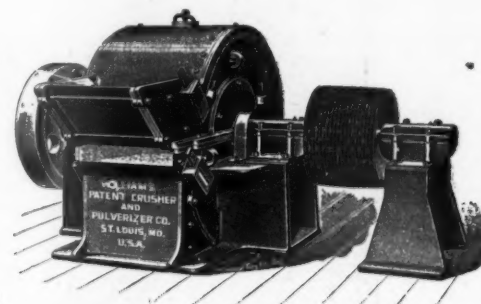
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Also used extensively for fine grinding on Gypsum, Lime, Coal and Shale.

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GET THE BEST Finest Line of Gypsum Machinery

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KETTLE CRUSHER NIPPERS

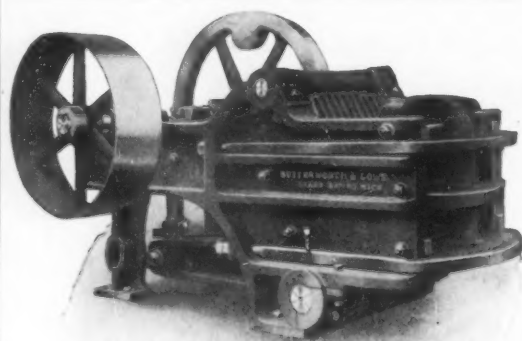
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Best Mills in the United States Have Them

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"Formerly Des Moines Mfg. & Supply Co."



Nippers—made in 3 sizes.

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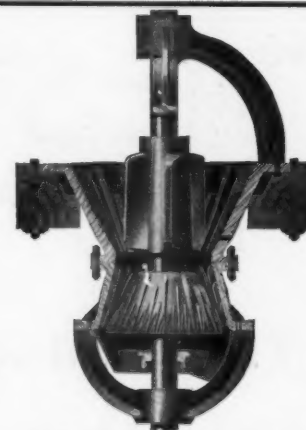
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GYPSUM MACHINERY — We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

Special Crusher-Grinders for Lime

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Crackers—5 sizes—many variations.

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RETARDER

We are the oldest Retarder firm in the United States, and above is our motto. New fire-proof plant and prompt service.

FREE SAMPLE ON REQUEST

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CUMMER CONTINUOUS PROCESS

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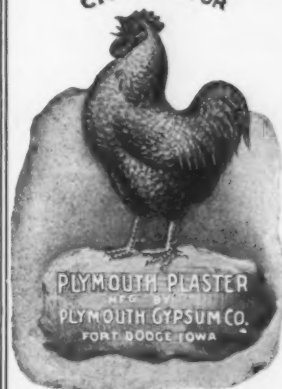
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Reliable Stucco Retarder=Strong=Uniform in Strength=
Duplicate power plant (electric and steam power) installed so as to preclude any possibility of shut down and consequent shut down of mixers who depend upon us for their supply of Retarder. We have a capacity large enough to supply every retarder user in the U. S. and Canada, and some to spare for Europe. Our mills are fireproof in every particular. Write us for prices and information.

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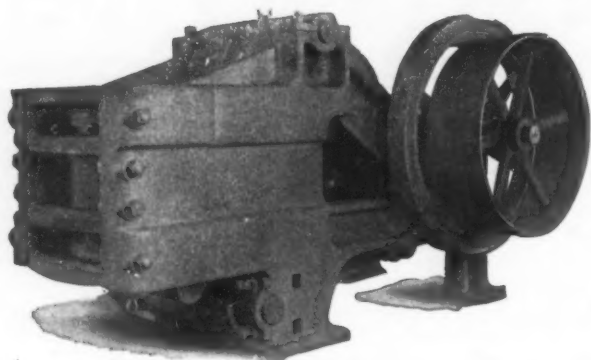
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NOISELESS,
DURABLE and EFFICIENT.

For Mixing Hair Fibre, Wood Fibre and
Retarder with Dry Plastering
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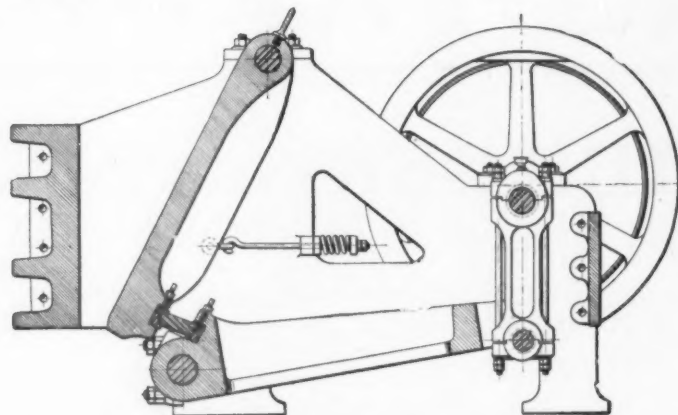
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Jaw and Rotary Crushers for Gypsum, Reels,
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mission for applying power.



EHRAM NO. 4 JAW CRUSHER.

This machine will handle large chunks and reduce from 30 to 40 tons of
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NO. 4 JAW CRUSHER, SHOWING SECTIONAL VIEW OF NIPPER.
The jaw opening at inlet is 18x28 inches.

The J. B. Ehram & Sons Mfg. Co.,
BUILDERS OF
COMPLETE EQUIPMENTS FOR PLASTER MILLS
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When "Best" Happens to be "Cheapest"

No architect, contractor or builder deliberately prefers inferior materials. None is indifferent to possible improvements. Every man wants the "best" construction—but, only so far as "best" is consistent with his estimates of cost. Now when the whole weight of building experience stamps a certain type of construction as "best," and cost is reasonable, then the sentiment in favor of that construction predominates. And this is precisely the situation with regard to

ADAMANT PARTITION

Consisting of

Sackett Plaster Board

(Fireproof)

Which is an economical combination of LATHING and FIREPROOFING in one inexpensive commodity—Composed of alternate layers of strong, fibrous felt paper and calcined gypsum—Made in sheets 32"x36"; $\frac{1}{4}$ " to $\frac{1}{2}$ " in thickness—Used in place of inflammable wood lath, metal and other lathing materials for ceilings, walls and partitions in all classes of buildings—And in a great variety of ways, as sheathing, insulation, sound deadener and fire retardant—Economical in construction—A perfect non-conductor of heat, cold and sound—Avoids lath stains, buckles, cracks and warping of the frame due to excessive moisture, as the bond between plaster and the DRY BOARDS is perfect.

Gypsinite Studding

(Fireproof)

Which does away with inflammable wood studding and together with Sackett Plaster Board, makes an absolutely FIREPROOF PARTITION—Consists of nailing strips completely imbedded in and protected by Gypsinite Concrete—Stock size 3"x3" in lengths up to 12 ft.—Weight about 3 lbs. per linear foot.—Made straight and true, insuring plumb partitions, thus saving plaster—Handled, erected, **nailed into**, exactly the same as wood studding—The latest **Advance** in the direction of a **light, fireproof** partition—Sackett Plaster Board over Gypsinite Studding, plastered according to instructions, forms a wall $4\frac{1}{2}$ " thick, of much **LIGHTER** weight than any other fireproof partition.

Most Advantageous of Any Fireproof Construction Known

ADAMANT PARTITION is ideal—strong, durable, sound-proof, fireproof, non-conductor of heat and cold, light weight—which means economy in the steel structure—perfect plastering surface—hollow space for concealment of pipes and wires—**everything** that modern construction demands; and the cost need not deter any one, because **SACKETT PLASTER BOARD OVER GYPSINITE STUDDING** is inexpensive as well as the best form of fireproof construction known.

Because it is best, architects do themselves credit, and their clients justice, when they **specify** Adamant Partition.

Because these materials free the Contractor from variations in lath quality and uncertainties of lath supply, giving him the advantage of great economy in time and labor.

Because of the widespread and enthusiastic sentiment in favor of Sackett Plaster Board and Gypsinite Studding, and the absence of price obstacles, every material dealer should seize the opportunity to increase sales and add a new source of profit by featuring these materials.

And every builder should take steps at once to acquaint himself with the protection, advantages and economies of Sackett Plaster Board and Gypsinite Studding, composing Adamant Partition.

Write us for literature, information, prices, samples—anything in our power to aid you in getting the best materials for your purpose.

UNITED STATES GYPSUM COMPANY

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We cannot dwell too strongly upon the increased bulk and consequent greater covering capacities of our "NIAGARA" line of wall plasters, their favorable working qualities under the mechanics' tools and final strength.

Niagara Neat Cement

Niagara Sanded Mortar

Niagara Wood Fibre (Wood Pulp)

Dealers realize the additional dollars in the handling of our products because of their preference by the trade and good sense is displayed in pushing their sale. MIXED CAR LOAD SHIPMENTS of wall plasters, hydrated finishing lime, plaster board, land plaster, and calcined plaster for finishing purposes.

ALL BUSINESS DIRECT WITH SALES OFFICE.

NIAGARA GYPSUM CO.

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THE FULLER ENGINEERING CO.

DESIGNING, CONSTRUCTING AND OPERATING
ENGINEERS ANALYTICAL CHEMISTS

CEMENT MILLS A SPECIALTY

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Tests and Inspection of Cement—Reinforcing Steel and all Cement Materials and
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KING'S WINDSOR CEMENT FOR PLASTERING WALLS AND CEILINGS

Buffalo Branch, CHAS. C. CALKINS, Manager
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Not the hardest, but the toughest and best Wall Plaster made—Can be applied with less labor. Has greater covering capacity than any other similar material

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You will be
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If you are up-to-date, you know that

Beaver Board

Makes the Most Beautiful, Durable and
Economical Covering for all Kinds
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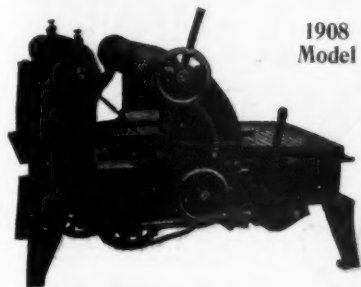
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The Shuart-Fuller Improved Fiber Machine



1908
Model

Has an automatic, proportional, increasing feed, which keeps grade of fiber uniform from start to finish, and holds machine to highest possible rate of production for the grade of fiber and number of saws. Does not begin with fiber and end with dust, nor fall off in rate of production on each log, from 40 to 80 per cent as do the ordinary non-increasing feed machines. Works logs up to 24x24 inches. No royalty string attached to sale. Pay no attention to misrepresentations of our competitors, but write for descriptive circular and terms to

The Shuart-Fuller Mfg. Co.
ELYRIA, OHIO

THE SHUART-FULLER CO., Elyria, Ohio.

Gentlemen:—We are just in receipt of advice from our New Mexico plant wherein they state that the Wood Fiber Machine recently shipped by you is doing all that we have asked of it and running very fine.

ACME CEMENT PLASTER CO.

St. Louis, June 17, 1907.

By Jas. R. Dougan, Sec.

CLINTON METALLIC PAINT CO.

CLINTON, N. Y.

LARGEST AND OLDEST MANUFACTURERS OF

**BRICK AND
MORTAR**

COLORING

Be sure you get the genuine with the "Little Yellow Side-Label" on each package.

Let us tell you about Side-Walk Black.

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—FOR—

Industrial Plants



We manufacture machinery for transmitting power, and for elevating and conveying materials in and about cement plants, rock crushing plants, lime plants, mortar works, plaster works, and other industries.

We manufacture screw conveyors, belt conveyors, and all sorts of chain and cable conveyors, for handling rock, lime, sand, etc.

We manufacture elevators, also, for handling the same kinds of material. Our lines include shafting, couplings, bearings, collars, pulleys, gears, rope sheaves, sprocket wheels, elevator buckets and bolts, steel elevator casings, etc.

We have our own foundry, sheet metal department and machine shop. We employ first-class help in all departments and use high-grade materials.

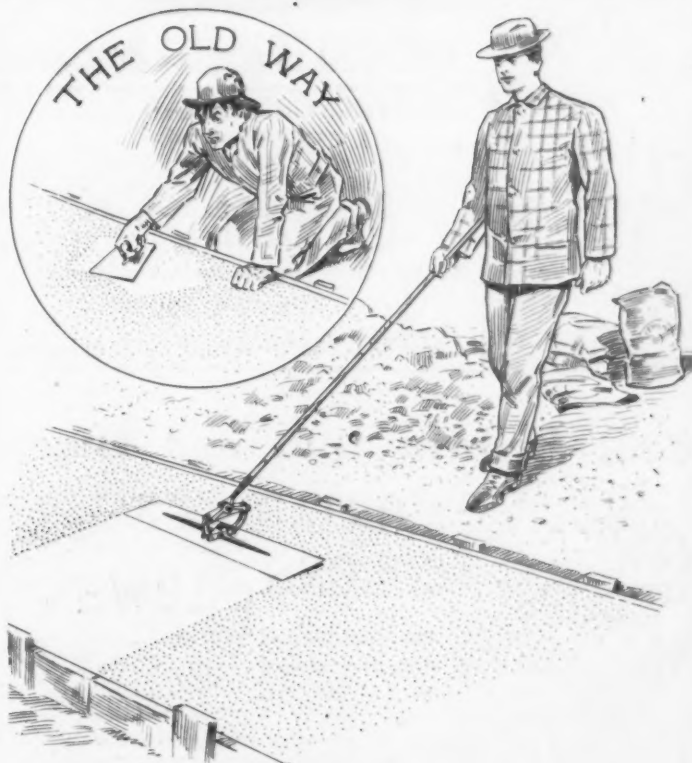
When you are in need of anything in our line, try us.

Catalog No. 34

H. W. Caldwell & Son Co.

17th St. and Western Ave., Chicago

Fulton Bldg., Hudson Terminal, No. 50 Church St.
NEW YORK CITY

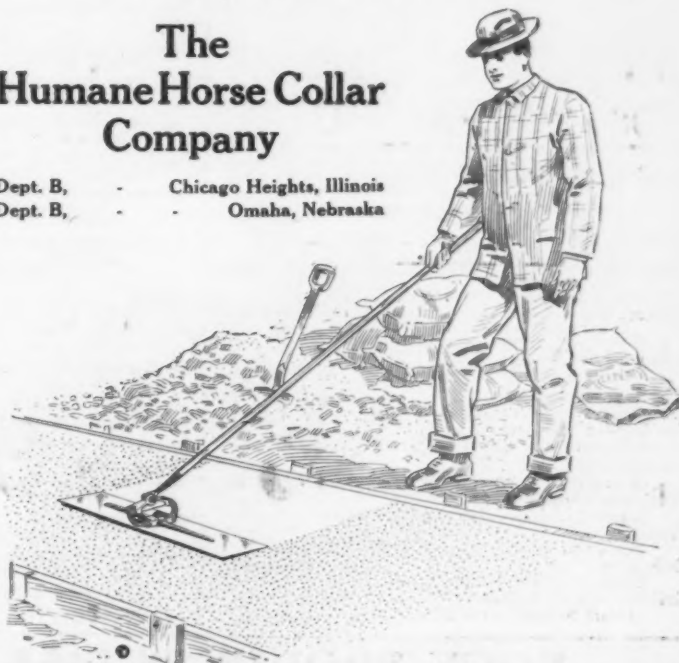


Humane Double-Action Trowel

1. Finishes both ways.
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**The
Humane Horse Collar
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WHY PAY MORE ?

PRESS



100,000 Pounds Pressure

A Hand Lever Concrete Press
at a Modest Price

MAKING

HOLLOW
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HEADER-BOND **BLOCKS**
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Collapsible Steel Culvert Forms

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AMERICAN CEMENT MACHINERY CO., St. Louis, Mo.

Red, Brown, Buff and Black



MORTAR COLORS

The Strongest and
Most Economical
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Our Metallic Paints and Mortar Colors are unsurpassed in strength, fineness, and body, durability, covering power and permanency of color. Write for samples and quotations.

CHATTANOOGA PAINT CO.

Chattanooga, Tennessee



A MONEY MAKER

LEARNER CONCRETE FLUE MACHINE

This machine makes double ventilated fire proof chimney blocks, as nine years of severe tests have proven.

You can produce two sizes of flue linings suitable for lining brick chimneys, either one or two at each operation.

You can also make porch columns, piers and lattice work on the same machine.

Beautiful line of ornamental molds for porch columns and balusters.

We manufacture a high grade line of concrete machinery and edged tools at low prices.

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ROCK PRODUCTS, 355 Dearborn Street, CHICAGO

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Concrete Blocks

Highest Attainment of the
Concrete Industry

MADE BY CENTRIFUGAL FORCE

Strictly a High Class Factory Proposition
Speedy and Economical. The machine does all the work except the original mixing and piling up the finished product.

No Tamping. The mixture is poured into the moulds, then revolved rapidly, producing a pressure of thousands of pounds, uniformly, on every part of the block. The excess water is then extracted as a fine mist, and in about sixty seconds the blocks are ready to be removed from the moulds.

The Way it is Done. Take a West Slush Mixture of Portland Cement with any suitable aggregate and after a thorough mixing pour into the moulds successively until all are filled. Then throw the belt upon the service pulley for one minute or less at a high speed with the development of tremendous pressure in the fully perfected Centrifugal Machine. Remove the finished blocks from the molds and leave them on the pallets for a few hours. The blocks are then ready for storage in the yard or can be used in the wall within 12 hours. Fully protected by patents. Standard size machines in operation more than 2 years.

Centrifugal Concrete Machine Company

805 Corn Exchange Bank Bldg.
CHICAGO, ILL.



This machine makes 600 blocks in a 10-hour day, 8"x8"x16"

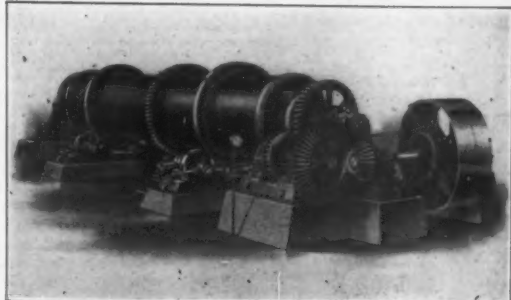
SAND LIME OR SILICATE BRICK



This plant located at South River, N. J., was formerly intended to operate under the "Division System" but is now being reconstructed to conform in every detail to the Wiebe-Hydro-Lime-Silicate-Process, and will be when completed the largest plant in the United States with a daily capacity of 100,000 brick.

MANUFACTURED under the Wiebe Hydro-Lime-Silicate-Process, and by our specially designed machinery, have been acknowledged by leading engineers, architects and organizations of New York City to be the most perfect sand brick in the country. Compression as well as transverse strength, and its non-absorptive qualities far excel the requirements of the city.

BY THE INTRODUCTION of our process and special machinery in this country, a large and profitable field is thrown open to the American manufacturer engaged in this industry. The product from same is perfect, beautiful, and unexcelled.



Hydro-Vapor Preparation Machine

Eliminates your doubts and worries. No sand-lime-brick plant is complete or successful without this machine. Receiving the material from the Silo, it prepares and delivers same in an absolutely perfect condition for the press.

SAND DRYER

High efficiency and durability

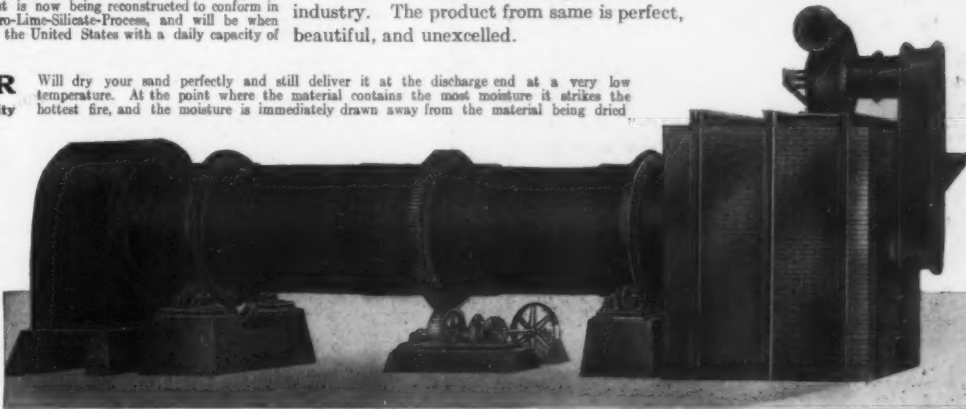
Will dry your sand perfectly and still deliver it at the discharge end at a very low temperature. At the point where the material contains the most moisture it strikes the hottest fire, and the moisture is immediately drawn away from the material being dried.

RESUME

Dating as far back as 1901, when the manufacturing of commercial silicate brick was introduced into this country, no system has been more successful than the so called "Silo" or "Division" method.

In the ratio that the Silo or Division Process is superior to all other systems hitherto employed, in that proportion the Wiebe-Hydro-Lime-Silicate process is superior to the Division methods.

All other processes are commercial impossibilities, and those who are operating under these old methods are losing money and producing an inferior quality of brick.



Do you wish to know WHY our process is superior to all others? If you have any experience in the production of silicate brick, and will allow us to show you the merits of our process, you can easily understand why, and you will then readily appreciate the merits thereof. If you are interested we will gladly enter into any detail necessary to demonstrate the superiority of our system over all others.

Engineers, Designers, Builders of Factories for the Manufacture of High Grade Silicate Brick, Colored and Fancy Brick, Roofing and Wall Tile.

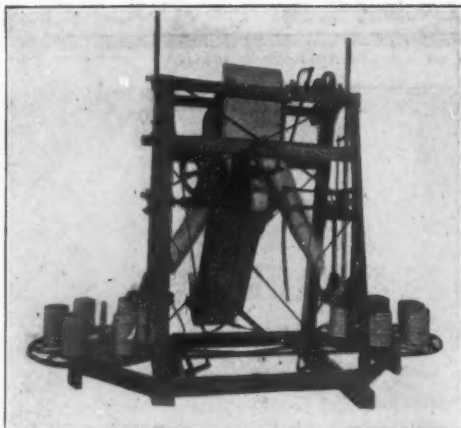
Sole Owners of The Wiebe Hydro-Lime-Silicate-Process and Special Patented Machinery.

WIEBE ENGINEERING COMPANY

170 Broadway, NEW YORK

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THE McCracken Double Tile Machine



The McCracken Double Tile Machine makes all sizes of cement tile from 4 to 16 in. in diameter at the rate of from 10 to 20 tile per minute. Also makes building blocks or construction tile 8x8x16 at the rate of 2000 to 3000 per ten hour day.

The machine will make two different sizes of tile at the same time or building blocks and tile at the same time, or either end of machine can be used without using the other.

The machine has no cams and runs just as smooth at high speed as when running slow. Takes less labor per 1000 tile than any other machine.

Tile are packed so hard that the large sizes can be carried without the use of pallets. Machine is very simple and strong and runs very light, and elevator can be started and stopped without stopping the machine.

See the McCracken Machine before you buy. Write to

The Sioux City Cement Machinery Company
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The Chase Roller Bearing Car FOR CEMENT, BLOCK AND TILE



**BOTTOM AND SIDE DUMP CARS, TRANSFER
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The Improved Peerless One Man Cement Brick Machine

Equipped with new tamping device, which tamps ten bricks in the machine at one operation, making 12,000 perfectly formed bricks in ten hours.



The superiority of the Peerless Brick Machine was demonstrated conclusively at all of the recent conventions.

It is the greatest invention in the industry. Simple, strong and durable. Combines all the advantages of every other machine at the smallest cost.

The most successful and most easily operated one-man brick machine ever made.

Write at once for particulars.

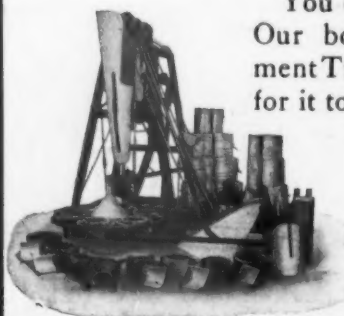
Peerless Brick Machine Co.
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\$5,000.00 Profit the First Year

With an investment of Five Thousand Dollars and doing a \$15,000.00 business a little factory in Western Iowa at the end of the first year shows a net profit of \$5,000.00.

Just think of it! 33 1/3 per cent profit on the total amount of the business and 100 per cent profit on the investment.

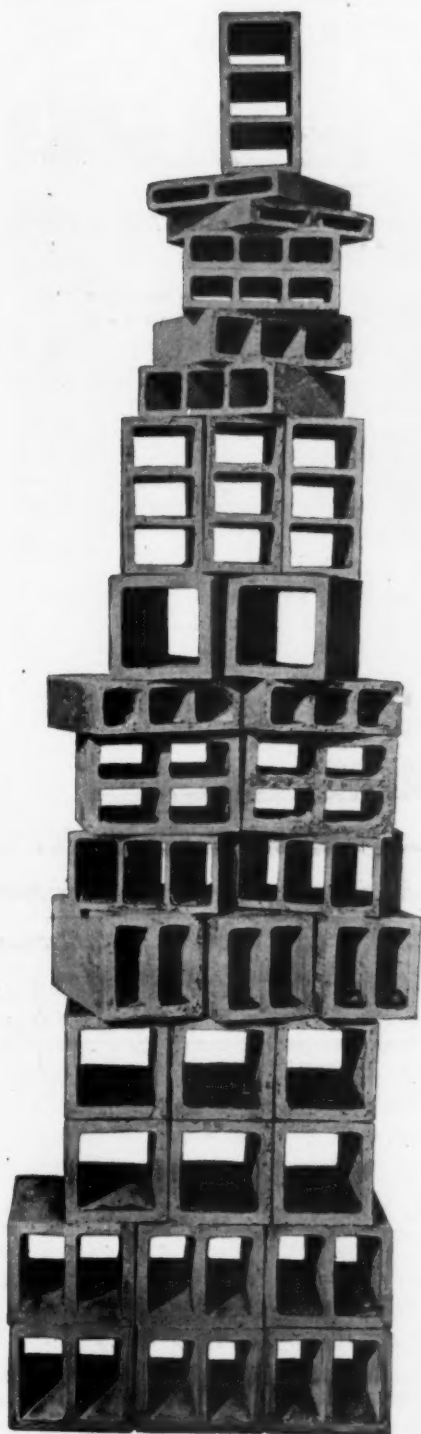
You can do equally as well. Our booklet "Money in Cement Tile" tells you how. Write for it today—it's free.



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"Manufacturers of the Schenk
Cement Drain Tile Machine"
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Has The First *Pauly* Concrete Tile Plant Been Successful?

This question, which is usually first asked us by interested parties, is best answered by two facts:— 1. During the year of 1909, the demand in Youngstown, Ohio, could not be satisfied, and (2) the plants capacity output is sold until the middle of the summer of 1910, in the City of Youngstown alone. In this connection it might be stated also that 4 tiles of our most common size, 8x8x16, can be manufactured from one cubic foot of concrete, with a labor cost of 50 per cent of the cost of concrete anywhere east of the Mississippi.

A weatherproof home of fireproof material can now be built for almost wooden construction cost. These points have been clearly demonstrated in Youngstown by practical use of *Pauly* Concrete Structural and Fireproofing Tile, in a variety of buildings. The result gained has not only been a financial success, but also an enviable position in the estimation of the entire building public.

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Our 1910 Catalog

Gives the method of manufacture, fire and compression test data, and the endorsements of local architects and other building authorities. Also many other articles and illustrations of interest to the general public. May we send you, postpaid, a copy of our Catalog?

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Increase Your Profits BY MAKING AND SELLING HERCULES CONCRETE BUILDING BLOCKS



The blocks that sell--the blocks that are always in demand--
The high grade blocks

HERCULES CONCRETE BLOCK MACHINES

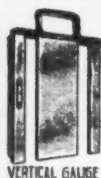
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Tools For Spreading Mortar and Laying Cement Blocks

Enable a man to do the best possible work
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THE TIME AND MATERIAL SAVED IN ONE
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Perfection at Last Attained in the Concrete Block Industry

The Perfection Power Block Machine is the only Power Block Machine on the market, making a Hollow Concrete Building Block under Heavy Pressure and at Great Speed.

Machines have been in constant use since July 1st, 1905, with practically no expense for repairs.

The machine handles sand, gravel, crushed rock, slag and coloring materials perfectly.

All materials accurately measured, thoroughly mixed and uniformly pressed under 200,000 pounds pressure.

Makes 8, 9 and 12x8x24 inch blocks in five faces, and fractional and angle blocks.

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All machines delivered set up and put in operation to show a guaranteed capacity of 60 blocks (12x8x24 inch) per hour with five men.

Blocks perfectly cured in 24 hours in Vapor Curing Kilns of our own design.

Full details, catalog, testimonials, etc., sent upon request.

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SIOUX FALLS, SOUTH DAKOTA.

PERFECTION IN BLOCK MAKING

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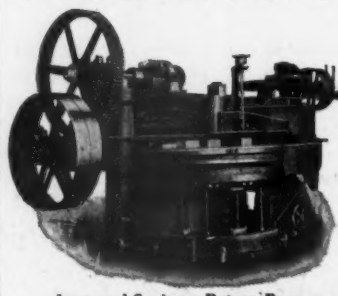
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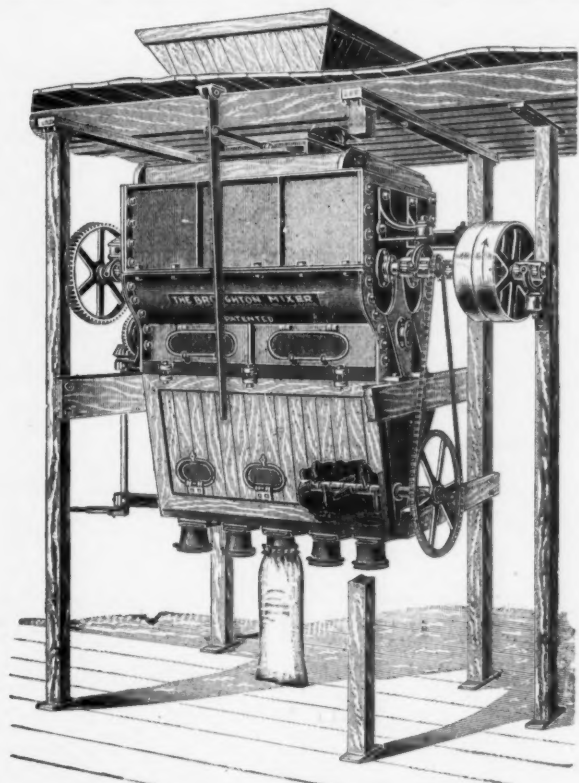
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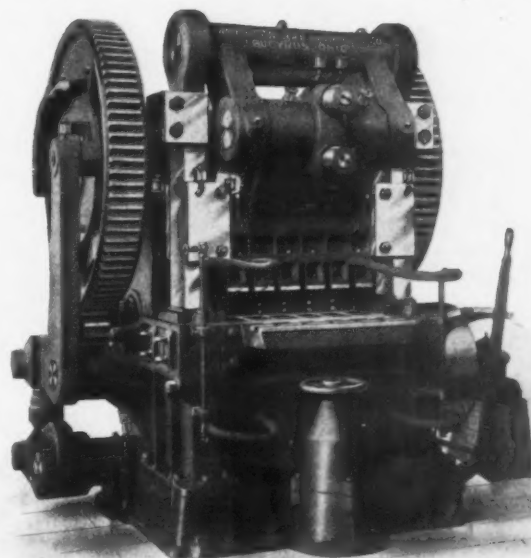
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